PROCESS AND PROCEDURE: THE TACTICAL DECISION-MAKING PROCESS AND DECISION POINT TACTICS

A thesis presented to the Faculty of the US Army
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MASTER OF MILITARY ART AND SCIENCE
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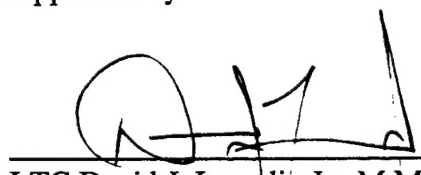

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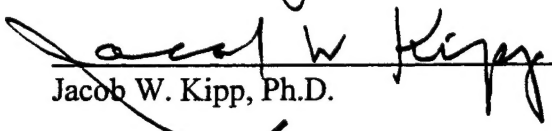

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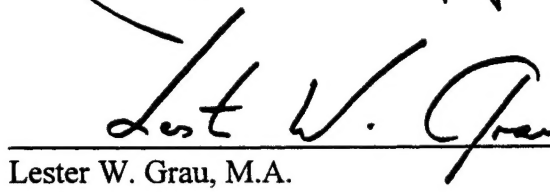

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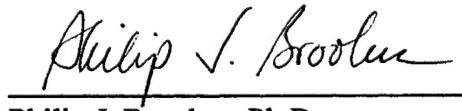

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PROCESS AND PROCEDURE: THE TACTICAL DECISION MAKING PROCESS AND DECISION POINT TACTICS, by MAJ Carl A. Alex, 106 pages.

This thesis addresses the tactical decision-making process to determine if decision point tactics is a function within the procedure of tactical decision making, which satisfies the tactical decision-making process by providing a suboptimized plan. The suboptimized plan enables the commander to enhance execution of a tactical mission. The thesis discusses the relationship of decision aids (decision points, the decision support template, and the decision support matrix) and the tactical decision-making process. The function these decision aids provide to the tactical decision-making process equates to decision point tactics and are analyzed to determine their doctrinal basis. The function of decision point tactics within the tactical decision-making process is analyzed to determine whether it provides an enhancement to tactical decision making. The thesis determines whether decision aids are adequately addressed in US Army doctrine and integrated in the current execution of the tactical decision-making process. This is important for tactical decision making because leaders must understand that the issues associated with tactical decision making cannot be solved with shortcuts, checklist, or abbreviated decision-making processes, but through understanding the intent of the tactical decision making process and impact of decision aids on mission execution.

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While acknowledging those who provided me assistance in this endeavor, I remain solely responsible for any remaining errors and faults in this thesis.

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ABBREVIATIONS

AI	Area of Interest
AO	Area of Operations
BOS	Basic Operating Systems
CCIR	Commander's Critical Information Requirements
CDR	Commander
COA	Course of Action
DDMP	Deliberate Decision-Making Process
DP	Decision Point
DPT	Decision Point Tactics
DSM	Decision Support Matrix
DST	Decision Support Template
ECOA	Enemy Course of Action
EEIR	Essential Enemy Information Requirements
FFIR	Friendly Force Information Requirements
FEBA	Forward Edge of Battle Area
FM	Field Manual
IPB	Intelligence Preparation of the Battlefield
IR	Information Requirement
LD/LC	Line of Departure/Line of Contact
MDMP	Military Decision-Making Process
NAI	Named Area of Interest

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CHAPTER 1

INTRODUCTION

> Without very good reasons a decision once made should not be abandoned. However, in the vicissitudes of war an inflexible maintenance of the original decision may lead to great mistakes. Timely recognition of the conditions and the time which call for a new decision is an attribute of the art of leadership. (1933, 5)
>
> *Truppenfuhrung* (German Army Leadership Manual)
>
> The problem is to grasp, in innumerable special cases, the actual situation which is covered by the midst of uncertainty and to guess the unknown elements, to reach a decision quickly and then to carry it out forcefully and relentlessly. (1990, 75)
>
> Field Marshall Count Helmuth von Moltke, *Leadership Quotations*

Preface

This thesis addresses the tactical decision-making process (TDMP) to determine if decision point tactics (DPT) is a function within the procedure of tactical decision making, which satisfies the TDMP by providing a sub-optimization plan. A suboptimized plan consists of subordinate plans characteristic of constituents of a base plan which satisfies other possible and viable courses of action to achieve the original purpose. It is this suboptimized plan, which allows the tactical commander to enhance his execution of the tactical mission order. The thesis discusses the relationship of decision points (DPs), the decision support template (DST) and the decision support matrix (DSM), decision aids of the TDMP itself. The function these decision aids provide to the TDMP equate to DPT and will be analyzed to determine: (1) if a doctrinal

basis exists, (2) if it adequately integrates the decision aids into the TDMP, and (3) if the function of DPT satisfies the TDMP by providing the tactical commander with a suboptimized plan. The suboptimized plan enhances tactical mission execution. This thesis initially looks at the origin and development of the military decision making process (MDMP) with the intent of understanding the desired endstate of the TDMP today. With this understanding, the thesis will assess whether the decision aids, (DPs, the DST and the DSM) are adequately addressed in US Army doctrine. If so, then what is the relationship of DPT, which equates the decision aids, to the TDMP. The thesis next addresses whether the decision aids are adequately integrated in the current execution of the TDMP. Finally, the thesis addresses whether DPT satisfies the TDMP and how DPT enhances tactical decision making. This is important for tactical decision making because leaders must understand that the issues associated with tactical decision making cannot be solved with shortcuts, checklist, or abbreviated decision making processes, but through understanding the intent of tactical decision making and utilization of DPs, the DST and the DSM. These decision aids are embedded in the theory and procedures associated with the TDMP.

Importance of the Study

The importance of this study on the TDMP is directly related to the tactical commander's decision process and command and control during the execution of a tactical mission. This decision process is known as the observe, orient, decide, and act (OODA) loop or Boyd Cycle which describes the basic sequence of the decision process. The OODA Loop applies to any two-sided conflict, whether the actors are individuals in

hand-to hand combat or large military formations. At the operational and strategic level, OODA becomes more complex as time and space issues are addressed. According to the model, when engaged in conflict individuals first observe the situation. Information is gathered about the situation, the status, surroundings, and the enemy. Sometimes information is actively sought, while at other times information is thrust upon individuals by surprise, or in great haste. Having observed the situation, the individual next orients on it. The individual makes certain estimates, assumptions, analyses, and judgments about the situation in order to create a cohesive mental image. In other words, an attempt is made to try to figure out what the situation means. Based on the orientation, the actors make a decision on what to do; whether that decision takes the form of an immediate reaction or a deliberate plan. Then the decision the actors execute is put into action. This includes disseminating the decision, supervising to ensure proper execution, and monitoring results and feedback, which completes a full cycle returning to the observation phase. Having acted, the individual has changed the situation, and so the cycle begins again. It is worth noting that, in any organization with multiple decision makers, multiple OODA loops spin simultaneously, although not necessarily at the same speed, as commanders exercise command and control over tactical missions.

The OODA loop reflects how the commander's decision making during the tactical exercise of a mission is a continuous, cyclical process. In any conflict, the actors who can consistently and effectively cycle through the OODA loop faster, who can maintain a higher tempo of operations, gains an ever-increasing advantage with each cycle affording tactical initiative. The slower actor falls further and further behind in his

actions and becomes increasingly unable to cope with the deteriorating situation. With each cycle the slower actor's actions become less relevant to the true situation, and becomes increasingly ineffective (Lind 1981, 4-6). This is the OODA loop in its simplest form. At the operational and strategic levels echelonment must be taken into account. The key to the OODA loop is the tactical decision and how quickly one can arrive at that decision. DPT is a function which enhances tactical decision making.

The end of this study will determine if DPT is a process within the TDMP. If so, this study will provide a basis for a doctrinal enhancement to the TDMP. This enhancement to the TDMP will provide the tactical commander with a procedure that not only satisfies the TDMP, but enables the tactical commander to optimize tactical execution by cycling faster during the decision cycle, thereby creating the command and control environment necessary to achieve tactical victory. To form a basis for the study of the TDMP, it will be useful to look at the background of the MDMP.

Background

Leaders have always faced a complex environment of imperfect knowledge, uncertainty and ambiguity in battle. In the conquest of Jericho, Joshua, Moses' successor to the military leadership of Israel in Biblical times, incorporated military decision making to deal with imperfect knowledge. He then supported his decisions through reconnaissance (Herzog and Gichon 1997, 45). Combat leaders recognize one key activity in battle is the management of uncertainty and that the key uncertainty on the battlefield is generated by the enemy. Sun Tzu developed a four-step decision making process to manage the enemy and uncertainty in battle to bring victory. In *The Art of*

War, Sun Tzu describes this four-step method. The four steps are measurement, estimation of quantity, calculation, and balancing of chances. Measurement is the survey and measurement of the ground. Estimation of quantity analyzes strength and disposition. Calculation addresses enemy moves and friendly moves. Balancing of chances weighs options in light of enemy possibilities. This methodology has been valid throughout the development of the MDMP. Today, steps of the decision making process in most modern armies bear some resemblance to that of Sun Tzu.

The modern analytical process of military decision making has its beginnings with the Prussian Army in the 1700s (JRTC SOTB 1996. 3). The initial form originated by the German Army was called the "applicatory system." The goal of the applicatory system was to produce realistic wartime problems in training (Seigle 1976. 18). The US Army developed the applicatory system through experience, an understanding of the principles of war, and standardized doctrine and staff functions not only to produce better tactical commanders and staff officers, but more exclusively to *direct success in battle*. The US Army's Infantry and Cavalry School and Staff College created "the first complete system of procedures (for military decision making) in recorded history" (Siegle 1976, 12). The adoption of the five-paragraph order in 1906, standardized the procedural process by which a commander reaches a decision which his orders were based (Shirron 1984, 13). Establishing the foundation of the current institutional military decision making process are two twentieth-century publications, *Field Orders, Messages and Reports*, a booklet by Major Eben Swift in 1906 and *Estimating Tactical Situations and Publishing Field Orders* by Captain Roger S. Fitch in 1909. The United States Army War College further

standardized the Army's decision making process in 1911 which provides today's doctrinal basis for the military decision making process. The US Army's initial military decision-making process had four steps: (1) mission receipt and analysis, (2) courses of action consideration, (3) decision, and (4) orders. Later, German, French, and Russian military decision making methodologies were integrated into the US Army's military decision making process.

Truppenfuhrung (translation)*(1933)*, was the principal doctrinal manual for the German Army throughout World War II. This document served as a source for the development of the initial edition of the US Army's FM 100-5, *Operations*, and for further development of the US Army's decision making process. The process for military decision making remained relatively unchanged until the emergence of nuclear weapons. The increased US role in global affairs led the Army to transition to a more centralized decision making process. Today the MDMP is conducted in seven steps: (1) receipt of mission, (2) mission analysis, (3) course of action development, (4) course of action analysis, (5) course of action comparison, (6) course of action approval, and (7) orders production. In tactical environments, this process is called the TDMP which parallels the MDMP in four steps: (1) mission analysis, (2) course of action development, (3) course of action analysis and comparison, and (4) decision. In order to conduct this study of the TDMP, it is necessary to understand the problem and associated issues with the TDMP.

Definition of the Problem

A large percentage of tactical planning conducted fails to meet the commanders requirements for tactical decision making during mission execution. The major cause for

this is that tactical planning does not sufficiently address DPs, the DST and the DSM, essential subcomponents for the development and execution of a suboptimized and synchronized plan. This study proposes that there is a systemic shortfall in the planning methodology in that DPT is not addressed in the analytical aspects of the TDMP. Therefore, the purpose of this thesis is to identify the doctrinal basis of DPT which equates DPs, the DST and the DSM, and determine if DPT is a process within the TDMP that satisfies the plan through suboptimization. The synchronization of a suboptimized plan meets the commanders requirements for tactical decision making and provides an opportunity for the commander to enhance tactical mission execution.

In addition to the proposal that DPT addresses a systemic shortfall in the planning methodology, this thesis addresses secondary questions as well. There must be a an implied rationale for the decision aids provided in FM 101-5 and FM 34-130. This rationale will lead to an explanation of the relationship of decision aids to DPT and why DPT is not currently exercised. Since DPT is utilized by the "world class" Opposing Forces (OPFOR) at the combat training centers, can the OPFOR's tactical success attributed to DPT be translated to conventional units? Finally, the study details the enhancements provided to the TDMP by DPT.

Tactical planners may fail to apply correctly DPs, the DST and the DSM, components of DPT, for several reasons: (1) planners disregard, (2) do not completely understand, or (3) have not been taught the relationship of DPs, the DST and the DSM to the TDMP. Whatever the case may be, the impact that decision aids have on course-of-action development and subsequent mission execution is not apparent to the tactical

planners. Currently the US Army doctrine does not include the function of DPT within the procedure of the TDMP, nor does it adequately address DPs, the DST and the DSM in Field Manuel (FM) 101-5 or FM 34-130.

The TDMP is an accepted and tested method by which the commander translates his vision of the mission endstate into action (FM 101-5 1997. 5-1). To do this the commander must know *if* to decide, then *when* and *what* to decide as he visualizes the battlefield (FM 100-5 1997, 2-14). The present goal of the TDMP is focused inappropriately toward deciding how best to conduct a mission (optimization), rather than the tactical execution of the mission (satisfying). The tactical commander must continually visualize the battlefield and consistently, effectively, and quickly move through his decision cycle (OODA loop) during tactical mission execution. This requires that the TDMP go further than the mere optimization of the plan to satisfying the plan through its execution to the achievement of the commander's desired endstate. To achieve this, the plan must be suboptimized, which provides as many branches necessary to counteract enemy reaction and other "fog" of battle. To accomplish this, it is imperative tactical planners identify decisions the commander may and must make during tactical execution of the plan. To this end, the TDMP is only satisfied when the plan has been suboptimized.

The best plan is a flexible plan. A suboptimized plan is a flexible plan because it creates options for the commander. A synchronized plan, if not suboptimized, has fallen short of the goal for the TDMP to *direct success in battle*. The current US Army tactical planning methodology is focused excessively on the single tracked product, a

synchronized operations plan. This is an inadequacy with the TDMP because the emphasis is not placed on the tactical mission execution. Overemphasis on synchronization of the course of action (COA) tends to produce well-synchronized but inflexible plans. Many commanders attempt to fight from a synchronization matrix. A well synchronized plan usually does not outlast the first engagement because the plan was not suboptimized and was therefore inflexible.

Tactical planners in the conduct of the TDMP advocate plans based on enemy capability applied to enemy intentions. While there is almost universal acceptance of this planning doctrine by military staffs, history is riddled with examples of military units being surprised by the enemy. Tactical planners, in many cases, either did not foresee the full range of enemy possibilities or planned against a single enemy course of action. Units have most frequently cited the reason for being surprised by the enemy as an intelligence failure. War is a conflict of wills. The goal is to impose one's will on the enemy. Unfortunately, the goal of a thinking enemy is to impose his will on his opponent. Tactical planners must fashion plans that foil those of the enemy. Tactical planners have a tendency to develop and synchronize plans based on enemy intention rather than capability. The enemy's "most likely course of action" and "most dangerous course of action" are identified early in the planning process and before intelligence has developed the situation adequately. Tactical planners take this as fact and become locked into a single train of thought which excludes the possibility of other enemy intentions. The friendly course of action is then based solely on the perceived enemy intention. The

resulting plan does not consist of branch plans because the plan does not address the "what if" of a thinking enemy.

Since one cannot always determine enemy intentions, it follows that a thorough grasp of all enemy intentions and capabilities is essential and must be addressed. Tactical planners must develop a suboptimized plan by thinking through and planning for all foreseeable possibilities both of the enemy and friendly plan that accounts for all foreseeable enemy possibilities. Since tactical planners cannot predict enemy intentions or forecast the outcomes of battle this suboptimization of the plan reduces uncertainty by initiating actions aimed at discovering or limiting the enemy's options. Without this preparation the commander is less likely to discern emerging patterns and recognize criteria indicating dangers and opportunities in the thick of battle, thereby allowing the enemy to get in his decision cycle.

The TDMP "is a detailed, deliberate, sequential, and time consuming process" (FM 101-5 1997, 5-1). The goal of any planning process should be to develop a flexible plan that optimizes mission success. An issue among today's planners is that the current TDMP in its pure form is too time consuming. Most planning time is dedicated to war gaming courses of action and analysis. Here again the war game is aimed at optimization, selecting the best course of action, rather than mission execution (satisfying the plan). CALL Newsletter 95-12 addresses the "time" problem of the TDMP by offering a combat decision making process and a quick decision making process. These hybrid processes, while alleviating the time constraint, still fail to address the issues stemming from the systemic shortfall of the planning methodology. FM 101-5, *Staff*

Organization and Operations (May 1997), also suggests techniques and procedures to save time during the planning process. The TDMP cannot be superseded with shortcuts, checklists, or abbreviated decision making processes for any reason. These are not solutions to the problem because an appropriate analysis still is not being conducted during mission planning to enable the commander to make tactical decisions during mission execution. When this occurs, the commander is not able to identify decision points and employ available means at a specific point concerning a specific friendly course of action directly associated with enemy activity. This in turn hinders the commander's ability to optimize tactical mission execution. By utilizing DPs, the DST, and the DSM, which equate to DPT, the tactical planner is quickly able to arrive at a base plan enabling the staff to spend more time suboptimizing, integrating, and synchronizing the plan. To focus this study on the TDMP, the scope of research must be defined.

Scope

Though the methodology of DPT can be applied at all levels of decision making, the principal echelon of interest for this research of DPT is the tactical planner. The TDMP provides an excellent tool for the conduct of decision making.

The research of this thesis is limited to material addressing DPT, DPs, DST, DSM and the TDMP. The delimitations of the research is that it does not address how decisions are made. This would complicate research beyond the scope. This research is also not concerned with providing an alternative to the TDMP, but rather enhancing the existing process.

The research assumes that the TDMP process has been taught and is understood by commanders and tactical planners. This research also assumes the tactical planner understands the relationship between DPs, named areas of interest (NAIs), commander's critical information requirements (CCIR), targeted areas of interest (TAIs), and reconnaissance and security (R&S).

The problem with this research is that there is a significant shortage of detailed literature focused specifically on the DPT. However, the lack of detailed and specific information on DPT will be overcome through the extensive body of knowledge addressing the TDMP, DPs, DST, and DSM. Additionally the void of specific information on DPT will be offset through documents generated by the Center for Army Lessons Learned (CALL), other theses and unpublished works, and notes from subject matter experts (SME). To facilitate the understanding of this research, terminology used in the TDMP must be defined.

Definitions

A common frame of reference for this study will be set through a mutual understanding of terms. Frequently used or relevant terms to the study are defined in alphabetical order.

Branch. A contingency plan or course of action built into the base plan or course of action for changing the mission, disposition, orientation, or direction of movement of force to aid success of the operation based on anticipated events, opportunities, or disruptions caused by enemy actions and reactions as determined during the war gaming process (FM 101-5-1 1997, 1-21).

Decision Point (DP). Decision Points are events or locations on the battle field where tactical decisions are required during mission execution (FM 101-5 1997, 5-18). Decision points integrate named area of interest (NAI) and commanders critical information requirements (CCIR). TAIs are derived from DPs.

DPT (DPT). DPT is not a new concept, but a function of tactical decision making. The term is used to capture the collective interactions, integration, and end products of DPs, the decision support template, the decision support matrix, and the TDMP to employ "available means at a specific point in space and/or time where the commander anticipates making a decision concerning a specific friendly course of action. This decision is directly associated with friendly activity, threat force activity (action/reaction), and/or the battlefield environment" (CTC Quarterly Bulletin 1997, 4).

Decision Support Matrix (DSM). Aid used by the commander and staff to make battlefield decisions. It is a staff product of the war gaming process which list the DPs, location of the DP, the criteria to be evaluated at the point of the decision, the action or options to occur at the DP, and the unit or element that is to act and has responsibility to observe and report the information affecting the criteria for decision (FM 101-5-1 1997, 1-45).

Decision Support Template (DST). DST is created by the CDR and Staff during the decision making process to represent graphically the projected situation, identifying where, when, and under what conditions a decision must be made to initiate a specific activity or event (FM 101-5 1997, H-8).

Military Decision Making Process (MDMP). The MDMP is the army's analytical approach to problem solving. The process has seven steps which build upon the previous step. Each step has its own output. Errors committed early in the process impact on later steps and the final product (FM 101-5 1997, 5-1). The seven steps are: (1) receipt of mission, (2) mission analysis, (3) course of action development, (4) course of action analysis, (5) course of action comparison, (6) course of action approval, and (7) orders production

Optimization. To make the best or most favorable.

Satisfy. Meeting internal conditions or requirements necessary to the fulfillment of the purpose.

Synchronization. The arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time (FM 101-5 1997, 1-149).

Sequel. Major operations that follow the current major operation. Plans for these are based on the possible outcomes associated with current operations (FM 101-5 1997, 1-139).

Tactics. Tactics is the art and science of employing available means to win battles and engagements. Tactics is battlefield problem solving (FM 100-5 1993, 6-3).

TDMP (TDMP). The decision making in a tactical environment which parallels the seven step MDMP in four steps: (1) mission analysis, (2) course of action development, (3) course of action analysis and comparison, and (4) decision.

War game A step-by-step process of action, reaction, and counteraction for visualizing the execution of each friendly course of action (COA) in relation to enemy COAs and reactions. It explores the possible branches and sequels to the primary plan resulting in a final plan and decision points for critical actions (FM 101-5-1 1997, 1-161).

Research Method

This thesis addresses the doctrinal basis of DPT which equates DPs, the DST, and the DSM, and determines if DPT is a process within the TDMP that satisfies the plan through suboptimization. The synchronization of a suboptimized plan meets the commander's requirements for tactical decision making and provides an opportunity for the commander to enhance tactical mission execution. The study is divided into five chapters. This chapter, the "Introduction," provides background on military decision making and introduces the problem with associated issues. This chapter then establishes the basis for evaluating the doctrinal basis of DPT and its satisfaction of the TDMP for suboptimization of the plan and enhanced mission execution.

Chapter 2, "Concept Development and Doctrine Review," researches the doctrinal background and use of decision points, the decision support template, and the decision support matrix. These items being components of DPT form the basis for establishing the doctrinal basis of DPT. Past and current trends regarding DPs, the DST, and the DSM are discussed in this chapter. Assertions made in the "Introduction" will also be further developed. The analysis of this chapter will provide the doctrinal relevancy of decision points, the decision support template, and the decision support matrix to the TDMP.

Chapter 3, "TDMP," defines in detail steps of the TDMP specific to the topic of research. Through analysis of the TDMP the embedded nature of DPs, the DST, and the DSM is highlighted. The analysis shows the interrelationship between the CCIR, DPs, NAIs, R&S, decision points, the decision support template, and the decision support matrix and the TDMP.

Chapter 4, "DPT and TDMP," defines DPT and details how decision points, the decision support template, and the decision support matrix are components of DPT. The chapter illustrates how DPT is not a new concept but rather a existing function within the TDMP which utilizes existing doctrinal concepts. DPT will be analyzed against the following criteria to determine if it provides an enhancement to the TDMP: (1) provides an organization of thought and action, (2) maintains a common approach to tactical decision making, (3) saves planning time, and (4) increases the probability of success on the battlefield.

Chapter 5, the "Conclusion," highlights the findings of the study by summarizing the conclusions formulated in previous chapters of the thesis. This chapter finalizes the research question and brings the study to its desired endstate to determine the need for a doctrinal enhancement to the TDMP. Some recommendations are examined for the execution of the TDMP and future research.

CHAPTER 2

CONCEPT DEVELOPMENT AND DOCTRINE REVIEW

> (The) origin of thinking is some perplexity, confusion, or doubt. . . Given a difficulty, the next step is suggestion of some way out - - the formulation of some tentative plan or project, the entertaining of some theory which will account for the problem. The data at hand cannot supply the solution; they can only suggest it. What, then, are the sources of the suggestion? Clearly past experience and prior knowledge. (1910, 133)
>
> John Dewey, *How We Think*

Foreword

The purpose of this chapter is twofold. First, to develop the concept for the commander's use of decision aids during TDMP and mission execution. The aim is to investigate the relationship between mission success at the tactical level and the commander's ability to execute a series of decisions faster than the adversary. Second this chapter outlines US Army doctrine on decision aids that support the commander's tactical decisions. This will provide a basis for examining DPT integrated nature within tactical decision making.

Commander's Tactical Decisions

US Army forces in combat seek to impose their will on the enemy or alter conditions to achieve a purpose. The commander must be able to visualize the battlefield, assess the situation and bring combat power to bear to achieve victory. To bring combat power to bear, the commander must make sound tactical decisions based on an assessment of the situation. The US Army provides a doctrinal guide to achieve military

victory which drives and guides the commander's tactical decision making. This doctrinal guide is applicable in both conventional warfare with a defined enemy and in operations other than war (OOTW) as it assist in defining how the mission the unit must accomplish is executed. The Tenents of Army Operations found in FM 100-5, *Operations,* is the doctrinal guide that influences the commander's tactical decisionmaking. FM 100-5, currently in revision, is the US Army's keystone doctrine for executing military operations, which describes how to think about the conduct of all facets and levels of these operations. In an attempt to achieve victory, the commander plans operations and makes tactical decisions based on these tenents. The tenents of army operations are initiative, agility depth, synchronization and versatility. (FM 100-5 1993, 2-6 - 2-15)

Initiative sets or changes the terms of battle denying the enemy's options and maintaining friendly options. Initiative calls for quick planning and execution to operate within the "enemy's decision cycle" keeping him off balance and disorganized. Unfortunately, getting inside the "enemy's decision cycle" has been reduced to a cliché with very little meaning and understanding of its implication to tactical decision making. The commander must have the necessary decision aids to execute tactical decisionmaking. This, in turn, provides the commander the opportunity to gain and maintain the initiative.

Agility is being adaptable, providing the ability to act or react faster than the enemy and is paramount to gaining and holding the initiative. The key to agility is to develop plans that can be executed once the enemy situation becomes clearer. Here again

the commander must have the decision aids necessary to make timely decisions in order to act and react faster than the enemy. Initiative and agility are applied throughout the depth of the battlefield.

Depth affords the commander the ability to conduct actions across the battlefield to include sustaining momentum and focusing combat power throughout the battlefield. Depth orients on time, distance, and resources. Depth requires the commander to make time-sensitive tactical decisions which provide enough time and distance to maneuver combat power and resources to achieve victory. This requires synchronization and takes into account the second and third effects of tactical decisions.

Synchronization is arranging activities in time and space to mass combat power at the decisive point. During mission execution the commander must make decisions which enable the arrangement of activities in time and space to achieve desired effects based on the flow of the battle.

Versatility is the ability to meet diverse mission requirements. Versatility, in a sense, is akin to flexibility. The commander can only achieve initiative, agility, and depth with a flexible synchronized plan and a versatile unit capable of executing the plan. Versatility allows the unit to keep pace with the commander's tactical decision making in the dynamic and fluid environment of the battlefield. To achieve flexibility, the commander must develop plans that are oriented on the enemy in an action and reaction thought process specific of the mission.

As the commander strives to attain decisive action leading to victory, he simultaneously incorporates and utilizes the tenents. In the process of utilizing the

tenents the commander is forced to act or react faster in relation to time, distance, and resources to set or change the conditions of the battlefield. To do this the commander executes a series of tactical decisions. During mission execution the commander is constantly cycling through his tactical decision cycle or OODA loop to gain dominance and achieve victory.

The OODA loop or Boyd cycle was introduced by the retired Air Force officer Colonel James Boyd. Colonel Boyd conducted a parochial study of air-to-air combat during the Korean War to determine why American pilots were so successful. In his research, he focused on two aircraft, the Soviet MIG-15 whose mission was to attack US Bombers with the purpose of ridding the daylight skies of the B-29 bomber. The other aircraft was the American F-86 whose mission was fighter-to-fighter combat to protect the bombers. Boyd analyzed the two aircraft and discovered, notwithstanding, the different missions of the aircraft, that the MIG 15 was a superior aircraft to the F-86. Boyd noted, however, an advantage the F-86 pilot had over the pilot of the MIG 15. This advantage was in visibility. The F-86 afforded the pilot better visibility through his canopy, versus that of the MIG-15. This advantage permitted the American pilot to observe more in addition to the observations of his wingman. The F-86 pilot was therefore able to orient quickly to the changing situation and maneuver the aircraft in response. The F-86 gained a time advantage with each new action. With each change in action, the MIG's reaction was increasingly inappropriate. Eventually this gave the F-86 a good firing position. With much taken out of context in the research, the study produced a worthwhile decision cycle model. Boyd also studied ground combat to see if

there were any parallels with the air combat in Korea. The conclusion of Boyd's research is the called the Boyd Theory:

> Conflict can be seen as time-competitive observation-orientation-decision-action cycles. Each party to a conflict begins by observing. He observes himself, his physical surroundings and his enemy. On the basis of his observation, he orients, that is to say, he makes a mental image or "snapshot" of his situation. He puts the decision into effect, i.e., he acts. Then, because he assumes his action has changed the situation, he observes again, and starts the process anew. (Lind 1981, 5)

This is called the "Boyd Cycle" or "OODA loop". The connection between information and action is the fundamental idea with the Boyd Cycle.

William Lind in *Maneuver Warfare* further justifies the Boyd Cycle. Lind bases his research on the German Wermacht's wartime tactical performance (Kipp, 2000). Lind places emphasis on completing the Boyd Cycle faster than an adversary to gain the advantage. In doing so the adversaries decision process is defeated:

> By the time the slower side acts, the faster side is doing something different from what he observed, and his action is inappropriate. With each cycle, the slower party's action is inappropriate by a larger time margin. Even though he desperately strives to do something that will work, each action is less useful than its predecessor: he fall farther and farther behind. Ultimately, he ceases to be effective. (Lind 1981, 6)

Each level, tactical, operational, and strategic, simplistically executes an OODA loop. The OODA loop, however, may be an inadequate model of command and control at the higher tactical, operational, and strategic level. Boyd and Lind in their interpretation of OODA have a limited view of warfare as stated by Kenneth Allard: "Like the fighter pilot he once was, Boyd clearly envisions combat as a dogfight in which victory depends upon lightning speed, instinctive reflexes, and most of all, positional advantage" (Allard 1990, 153). The OODA is inadequate in perspective because fighter

plane combat is not protracted. The OODA therefore lends initially to "speed checkers" rather than a closer analogy to combat, chess. The OODA falls short, by tying mobility and reach of assets to a small piece of terrain influenced by a company, battalion, or brigade. The army is moving toward giving more terrain (space) and operational missions to tactical units, specifically brigades. The army is increasing space because of increased technology and the conduct of support and stability operations (SASO) and of operations other than war (OOTW). This creates a dilemma for the OODA loop in linking the organization together while simultaneously operating at the tactical and operational level. However, the OODA should not be dismissed. It does capture a natural decision method which shows that decision makers use a combination of mental and visual images and cues to arrive at a decision. The issue is how a brigade operates simultaneously at the tactical and operational level and how OODA links the organization together. The essence of linking organizations together involves the implicit idea of symmetry.

The answer, still based on the OODA, may lie with the Lawson model developed by Joel S. Lawson. His four-step decision loop comprised of *sense-compare-decide-act.* Similar to OODA with the exception, the Lawson model connects to the surrounding environment through the sense and act steps. Boyd targets the enemy's decision cycle as the control object, where Lawson uses the environment as the control object. Kenneth Allard, an analyst on national security issues who has conducted extensive work in the field of command and control, explains the Lawson model thus:

> This view treats command and control, or simply "command control," as a process in which different components have different roles while operating as part

> of a larger system. . . . It then follows that the purpose of the command and control process is either maintain or change the equilibrium of the environment, as determined by the higher authority. (Allard, 1990, 155)

What the Lawson models adds in respons, is that the brigade operates a hybrid OODA (see figure 1). This hybrid OODA essentially operates an OODA within an OODA. The outer OODA deals with planning decisions and the inner OODA deals with execution decisions. The *Observe* step for the outer entails battle damage assessment (BDA), information, collection plan. The *Orient* step (outer loop) covers desired end state and compares present to future environments. *Decide* and *Act* remain basically the same. The outer OODA feeds into the inner OODA at the *Orient* step. At all levels, the *Orient* state must take desired end state into consideration. The environment feeds directly into all loops. The issue now is whether brigades are staffed to perform the hybrid OODA. Although this is a concern, it is outside the scope of this thesis. The object here is to highlight a shortfall within the generic OODA at the operational level.

Another point is that OODA may bring tactical success in the mist of operational failure as demonstrated by the German Army on the Russian front during World War II. This explains the addition of the desired end state module on the Hybrid OODA Loop.

The tactical level commander's decision cycle flows as follows. First the commander *observes* the threat and unfolding events of the battlefield. The commander must be able to see the battlefield. The commander sees the battlefield, if not physically, then through his staff's battle tracking and intelligence gathering. Named areas of interest (NAI), along a particular avenue of approach where enemy activity is expected to occur, confirm or deny enemy activity.

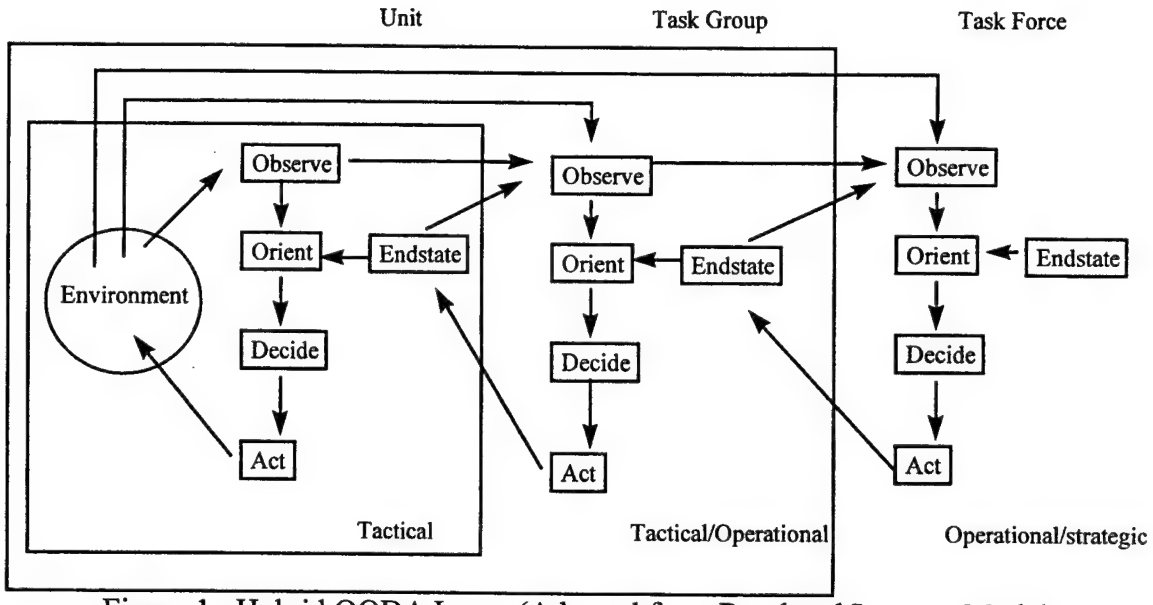

Figure 1. Hybrid OODA Loop. (Adopted from Boyd and Lawson Models)

The NAIs provide feedback which addresses the commander's critical information requirements (CCIR). The CCIR is information required by the commander that directly affects his decisions and dictates the successful execution of operations provide the commander insight to enemy intentions. "The commander seeks a dynamic image of the battlefield that will lead him to understand what action needs to be taken" (Kahan, Worley, and Stasz 1989, iv).

Based on observations, intelligence inputs, and evolution of the battlefield, the commander *orients* the battlefield situation. This orientation is a cognitive process in which the commander visualizes the current and projected battlefield. The commander must be able to visualize a multi-dimensional battlefield in depth and understand the time relationship between threat and friendly activities. The time factor is critical because the

commander must act or react faster in multi-dimensions to gain initiative and defeat the threat. The multidimensional battlefield includes not only the maneuver in land and air , but also the effects of the basic operating systems ((BOS) those major functions, such as fire support and engineers, are performed by the force on the battlefield to successfully execute operations). The DST developed during war gaming provides criteria which the commander looks for as he orients on the battlefield. The criteria may be tied to "triggers" or decisions which the commander must execute to achieve a specific effect or action on the battlefield. These triggers and decisions, whether based on threat or friendly activity, are called DPs.

With this orientation of the battlefield, the commander makes tactical decisions to achieve mission purpose or an endstate. When the criteria is met, the commander knows it is imperative to make a decision. The DST provides the criteria and the impending decision. The commander must decide in a timely manner. If the enemy passes (in relation to time) an established decision point or changes the parameters (through actions) of a decision point, the commander's decision is negated. DPs must provide the commander time and maneuver space to execute and create the desired effects. The DST along with the DSM, produced during the TDMP are products the commander utilizes during mission execution to aid tactical decision making.

The commander then *acts* by controlling and managing the executing of the decision. The action changes the battlefield situation. Because of this, the commander's decision cycle must begin again by executing a series of tactical decisions to achieve victory. The commander's decision cycle or OODA Loop is based on the connection

between information and action integrated with time. The critical element is time, and timings are determined during the TDMP. The commander must also know when the enemy will make a decision. Enemy timings are determined during the Intelligence Preparation of the Battlefield ((IPB) a systematic, continuous process of analyzing the threat and environments in a specific geographic area) process and confirmed by the collection plan. Enemy timings are addressed during the production of the Event Template (a sequential projection of events that relate to space and time on the battlefield and indicate the enemy's ability to adopt a particular course of action). Timings are critical because the execution time should be shorter for friendly forces than for enemy forces. Timings are established during the TDMP, refined during the war game, and detailed on the DST as time phased lines (TPL). The plan should also be flexible enough to support the commander's decisions.

Clausewitz states, "There is no action, no strategy or tactic that cannot be undone by prompt counteraction" (On War, 1976). The commander's decision cycle or OODA loop is no exception. Without constant repetitive reconnaissance to confirm intelligence, the commander is unable to observe and orient. The commander will either act or react blindly or too slowly giving the initiative to the enemy. The commander's decision point therefore both drives and is supported by intelligence. To be successful, the commander must guard against reflexive control with aggressive combat reconnaissance. Reflexive control goes beyond deception to the use of perceptions, patterns, events and prejudices to cause an opponent to act in a certain manner and think that it is his own idea (Grau 2000). In this, friendly actions do not become less appropriate to the situation causing

defeat or culmination. Depending on the situation, there may be a single decision cycle or a series before a desired endstate is achieved.

Hannibal went through his decision cycle faster than the Romans at Cannae and won a great victory. The Germans defeated the French in 1940 and the Japanese defeated the British in Malaysia in 1942 because both victors went through their operational decision cycles faster than their opponents.

The commander's tactical decision cycle is predicated by the decisions he may, must, and will make during the battle. To do, this the commander must be able to visualize the battlefield and understand "if, when, and what" decisions are to be made. In applying the decision aids developed during the TDMP, the commander is prepared to make decisions capitalizing on the situation and achieving victory through application of the tenents.

The TDMP found in FM 101-5, *Staff Organization and Operations*, is designed to develop an optimum executable plan. However, an optimum executable plan is not sufficient to achieve the objectives of the tenents. What satisfies the TDMP in providing the "if to decide, when to decide, and what to decide" (FM 100-5 1993, 2-14) are the decision aids output from the TDMP.

The commander must make decisions before the battle which enables the staff to develop a base plan to set conditions. The commander then executes tactical decision making during the battle to bring combat power to bear in an attempt to defeat the enemy's combat power. Decision aids developed during the TDMP, and continually refined and utilized throughout mission execution, assist the commander in battlefield

visualization and tactical decision making. In order to analysis the relationship between decision aids, the tactical mission planning, and decision point tactics, it is necessary to understand the doctrinal framework of decision aids in the conduct of mission planning and tactical execution. The basis for the "if, when, and what" of tactical decision making are the decision aids defined as DPs, the DST and the DSM. The crucial supporting product produced during TDMP for all decision aids is the event template.

Event Template

Of all IPB products, the event template is the most important product (FM 34-2-1 1990, 2-20). As defined in FM 101-5-1, the event template represents a sequential projection of events that relate to space and time on the battlefield and indicate the enemy's ability to adopt a particular course of action. The event template is a guide for collection and reconnaissance and surveillance planning. The event template is the one product of the IPB process that most influences the DST.

FM 101-5 states that the event template is developed from the situation template to help identify where specific enemy activities may occur. The situation template is a series of projections that portray, based on enemy doctrine, the most probable disposition and location of enemy forces within constraints imposed by weather and terrain and the geopolitical situation. The event template is the basis for the DST (FM 34-2-1 1990, 2-19-20). The event template provides NAIs (some of which become TAIs) and TPLs which are necessary for the production of the DST. These TPLs indicate when the adversary will make a decision or perform an action.

The event template depicts where to collect information that will indicate which COA the enemy has adopted. These information collection points are called NAIs. The NAI are added to the event template with timelines that reflect the expected arrival time of the enemy in each NAI (FM 34-130 1994, 3-33). Ideally, there should be an event template for each type of enemy threat (FM 34-130 1994, 3-74). Event templating determines the optimum time and place to interdict the enemy to achieve maximum delay, disruption, destruction, and when and where to achieve decisive exploitation of identified weakness (FM 34-3 1990, 4-1). This optimum time or place where the commander influences the enemy through fire and maneuver is called a targeted areas of Interest (TAI). TAIs normally are areas which were earlier identified as NAIs.

The event template is therefore a projection of what most likely will occur if the enemy adopts a particular course of action. By knowing what the enemy can do and comparing it with what the enemy is doing, it is possible to foresee what the enemy will do next. Because there are normally several courses of action which lead to the enemy's objective, each must be identified and assessed (FM 34-130 1994, 4-28).

Event templates should then be developed for each course of action. This is necessary because the enemy course of action selected as the most probable by friendly forces, may not be the COA the enemy actually adopts, whether for deception or other reasons known only to the enemy. The commander and staff must be able to shift attention quickly between courses of action during the battle. The event template therefore is a critical tool for determining the enemy's posture and movement.

Knowledge of when and where enemy activity is likely to occur on the battlefield provides indicators of enemy intentions (FM 34-130 1994, 4-28).

The event template is supported by the event matrix. The event matrix provides details for each NAI on (1) the type of activity expected, (2) when the NAI is expected to be active, and (3) the relationship the NAI has to other events on the battle field. It serves as an aid to situational development (FM 34-130 1994, 2-50-51). The event matrix correlates the expected events and activities within each NAI and adds the dimension of time. Before combat the event matrix and event template illustrate possible enemy courses of action as a basis for comparing friendly courses of action. During combat, they focus on enemy probable courses of action.

Event templating is the vital link between the success of the commander's tactical concept, intelligence requirements and the collection, planning, and execution needed to fulfill those requirements. Event templating assists the commander and staff in determining where to look, when to look, and what to look for (FM 34-3 1990, 4-29). Combining NAIs with TPLs, commanders and staff can show approximately when and where to expect to see enemy critical events occur (FM 34-2-1 1991, 2-18). The event template can predict when the enemy will have to make a decision. As the staff develops the friendly COA against the enemy COAs, it becomes apparent when the commander will have to make a decision based on enemy and friendly actions to achieve mission purpose. These decisions are known as decision points.

Decision Points

DPs are defined in chapter 5, *The Military Decision Making Process,* of FM 101-5, (1997, 5-18):

> DPs are events or locations on the battlefield where tactical decisions are required during mission execution. DPs do not dictate what the decision is, only that one must be made, and when and where it should be made, to have the maximum impact on friendly or enemy COAs. . . . DPs relate to identified critical events and are linked to NAIs and TAIs.

FM 101-5-1 further explains that DPs are a result of the war gaming process conducted before the operations order is issued. DPs integrate NAIs, TAIs, and CCIR to determine if and when a decision must be made.

Once the commander determines that a decision must be made, the commander must know when to make the decision so that battlefield activities occur at the appropriate time. DPs are absolutely time sensitive. The commander must make a decision at a point which affords the time and space to execute the decision. The commander must decide and act in less time than the enemy.

Finally, the commander determines "what" must be done in order to have maximum impact on friendly or enemy COAs. The "what" either triggers a significant action, reacts to an enemy action, or executes friendly essential tasks that focus combat power at a decisive point to accomplish the mission. DPs are identified following the selection of TAIs and are influenced by the availability and capability of friendly fire and maneuver systems. DPs, however, may refer to more than just fire and maneuver (FM 34-3 1990, 4-32).

> DPs identify those battlefield events which may require tactical decisions and the no-later-than time when these decisions are made for the commander to retain

> available options. Decisions are made early enough to ensure implementation in time to achieve the desired effects; however, they cannot be made until there are indications that particular battlefield events will occur and their locations determined with a high degree of confidence. DPs associate projected enemy locations with specific points on the battlefield. Comparing times required to implement decisions, enemy movement rates, and distances determine DPs. For example, if it requires two hours to implement a decision, it must be made while the enemy is at least two hours from the TAI where the event will occur.

To assist the commander and staff in identifying, managing and recording DPs, a DST is developed during the wargaming step of the TDMP. The DST depicts the TAI and DPs. The DST is the logical extension of the event template (FM 34-3 1990, 4-29).

Decision Support Template

The DST is a battlefield decision making aid for the commander. It consolidates all essential information and decision cues required by the commander to exert influence on a dynamic battlefield. The DST relates events of the event template to the commander's decision requirements (FM 34-3 1990, 4-29). It is therefore the ultimate product of planning effort. The basic elements of information that go into the production of the DST are operational graphics with enemy and friendly schemes of maneuver, branch plans, event template, synchronization matrix and CCIR. The DST helps the commander rapidly make sense of the fragments of battlefield information flowing to him. He can then build an accurate picture of the situation upon which he can make changes to the plan and influence the battle. Part of this process involves a thorough grasp of the options open to the enemy at various points in the battle. If the commander does not have a robust plan that has anticipated all enemy options, his efforts to effect battlefield command and control will be reduced.

The DST is created by the commander and staff during the war gaming phase of the TDMP. The DST graphically represents the projected situation, identifying where, when, and under what conditions a decision must be made to initiate a specific activity (such as a branch or sequel) or event (such as lifting or shifting of fires) (FM 101-5 1997, H-8). The DST enables the commander to identify and apply combat power in a timely manner (FM 34-3 1990, 4-1) The DST normally depicts DPs and TPLs associated with an event or decision as well as the commander's options. Time-phased lines track enemy movements by providing a graphic means of comparing the enemy's rate of movement along avenues of approach or mobility corridors (FM101-5 1997, H-9).

FM 34-130 (July 1994), *Intelligence Preparation of the Battlefield,* is the primary reference for the IPB process. This has the most information on the DST. It makes sense that the initial input to the DST begins with the IPB process. The commander must first understand the battlefield and his options in relation to enemy and friendly forces. IPB determines the threat capabilities, objectives and COAs available. "Threat COA models drive the wargaming of potential friendly COAs" (FM 34-130 1994, 2-52). During wargaming the commander and staff "fight" friendly COAs against threat COAs. "Based on the results of the wargaming, for each potential friendly COA, the staff constructs a DST" (FM 34-130 1994, 1-7). The DST is used by the G2/S2 to "structure the unit collection effort to deliver the intelligence the decision makers need at the times they need it" (FM 34-130 1997, A-14). The R&S plan must support the DST which in turn synchronizes the R&S effort to the overall plan (FM 34-2-1 1991, 2-22). This logical relationship also shows that NAIs must support DPs.

Another purpose the DST serves is to synchronize all BOS to the commander's best advantage (FM 34-2-1 1991, 2-20). FM 34-3, March 1994, page 42, states "BOS synchronization supports the DST and is usually included on the DST itself." The DST along with the DSM are used by the commander and staff during mission execution to fight a synchronized plan. As the commander "fights" the battle, and the staff "tracks" the battle, they refer to the DST matrix to: (1) determine which decisions are becoming due and (2) update the DST as new information becomes available. The relationship between IPB, the DST, and mission execution is explained thus:

> IPB provides the G2/S2 the tools he needs to quickly evaluate incoming information and intelligence as it relates to the command's Intelligence Synchronization Matrix (ISM) and DST. This supports the commander's decisions during COA execution and helps him to quickly confirm or deny the assumptions used during COA development. (FM 34-130 1997, 1-12)
>
> During the battle, the commander and staff track the DST and ISM against incoming reports. As the staff nears each decision point (DP), they look to the G2/S2 for intelligence that supports that decision. (FM 34-130 1997, 1-12)

The DSM supplements the DST. This matrix relates each DP to the event or associated TAI or NAI requiring friendly reaction (FM 34-3 1990, 4-32). The DSM details what is graphically portrayed on the DST. It only follows that a poorly developed plan which only addresses the "most likely" COA reduces the effectiveness of the DST and DSM to meet the commander's decision requirements during mission execution. This may be one factor in the lack of emphasis on the DST and DSM in current mission planning.

FM 34-130 (July, 1997) clearly expresses the DST in the decision-making process, establishes the DST as a product of war gaming, and is an essential tool for

mission execution. Ultimately, the purpose of the DST is to provide a guide as to when tactical decisions are required relative to battlefield events (FM 34-3 1990, 4-6).

The excerpt from "The Emperor has no clothes" (or The Maneuver Commander's Guide to the DST) presented in Appendix A, provides a review of some of the past literature on the DST. The excerpt reveals the DST's evolving nature and relationship to the TDMP and commanders decisionmaking during mission execution.

Conclusion

This chapter developed the concept for the commanders use of decision aids during TDMP and mission execution. The concept of the commander's decision cycle during mission execution and its relationship to mission success was analyzed. The commander will make tactical decisions to achieve his mission purpose. The chapter explained that mission success at the tactical level depends on the commander's ability to execute a series of decisions faster than the adversary. The commander's decision cycle is effected by the commander's ability to make timely and appropriate decisions. To make tactical decisions, the commander relies on his visualization of the battle, and outputs from the TDMP (mission plan). The commander manages his tactical decisions within the constraints of the flexibility of the plan. This lends to the commander using a series of DPs to execute the mission. DPs are one of several decision aids developed during the TDMP to provide the commander the tools to make and manage the execution of tactical decisions. Decision aids, specifically the DST, allow the commander to make timely decisions or cycle faster in the decision cycle (OODA). Decision aids are a critical asset for the implementation and execution of the doctrinal Tenets of Army Operations.

Currently, the commander is hindered by the lack of emphasis on decision aids. This lack of emphasis is related to the dangerous current trend of developing the "optimal" synchronized plan based on the "most likely" enemy course of action. The "most likely" enemy COA is even less relevant during operations other than war (OOTW) and support and stability operations (SASO).

This chapter provides a foundation for the remaining chapters through a survey of US Army doctrine on decision aids that support the commander's tactical decision making. The DST is the most important decision aid, and a tool commanders can use on the battlefield. It assists the commander in thinking and acting faster than the enemy.

Present army doctrine, particularly FM 101-5 and the FM 34 series, establishes the use of decision aids as paramount to the TDMP and mission execution. Though the use of decision aids are stated in current doctrine, in most instances, information on decision aids is vague, often confusing and inadequate in its explanation. The doctrine does not adequately outline the purpose of decision aids or provide detailed instruction in the development of decision aids. Most importantly, these manuals (doctrine) do not emphasize the natural integration and importance of decision aids to tactical decision making.

At one time, doctrine was evolving toward explaining the purpose and providing instruction for development of decision aids. The early evolution of decision aids is detailed in appendix A. This evolutionary trend in doctrinal thought ceased with the fielding of the 1990's versions of tactical decision-making doctrine, FM 101-5 and the FM 34 series. No definitive explanation could be found for this change in developmental

thought with reference to decision aids. As a result emphasis on decision aids has diminished.

This concept development and doctrine review suggest that part of the proposition is correct. Decision aids have a doctrinal basis and are embedded in the TDMP. Army doctrine does not provide an adequate explanation of the purpose and development of decision aids. The TDMP must be addressed next to understand the interaction and contribution of decision aids to the TDMP and the commander's tactical decision making during mission execution.

CHAPTER 3

TACTICAL DECISION MAKING PROCESS

> The commander must decide how he will fight the battle before it begins. He must then decide how he will use the military effort at his disposal to force the battle to swing the way he wishes it to go. (1990, 75)
>
> Field Marshall Bernard L. Montgomery, *Leadership Quotations*

> We want to assist the commander in . . . visualize[ing]what's happening now and then visualize what the future state must be, and then make the decisions that must be made to get that unit from the current state to the future state. (1993)
>
> General Frederick M. Franks, Jr.,

Overview

The TDMP captures US Army doctrine for combat decision making. The TDMP is a time-honored method leaders and staff utilize for tactical mission planning and problem solving. FM 101-5, *Staff Organization and Operations,* describes the current TDMP prescribed by the US Army. The intent of FM 101-5 and the TDMP is to provide basic doctrine and execution guidelines for commanders and staffs to use in arriving at and executing tactical decisions. This chapter outlines the discrete doctrinal and implied rationale for each of the four steps within the TDMP. *Mission analysis* and *COA Analysis* are closely examined to demonstrate the embedded nature of decision aids. The embedded nature of decision aids examined in this chapter is later applied in chapter 4 during the analysis of Decision Point Tactics. This chapter evaluates the procedural use of decision aids within the TDMP. The intent of this chapter is not to rephrase the

contents of FM 101-5 on "how" to use the TDMP, but illuminate and outline the doctrinal usage and implied "why" of decision aids in the process.

The TDMP is continuous, with some actions taking place sequentially, while others occur concurrently. Many factors affect the process: time available, the situation itself, availability of information, staff and commander location, and judgment. Time is normally the most critical factor of all. Although the process normally begins with the mission analysis, the process may begin with any step. Each consecutive step of the TDMP builds upon the last; therefore, it is necessary that each step be done in sequence or concurrently. Chapter 5 of FM 101-5 describes a seven-step process called the military decision-making process (MDMP). The four steps of the TDMP correspond with those of the MDMP. The TDMP incorporates steps one and two of the MDMP into one step, *mission analysis,* and steps four and five of the MDMP into one step, *COA analysis*. The TDMP does not address step seven of the MDMP, *orders production,* due to the various methods for dissemination of orders in a tactical/combat environment. The processes and procedures of the MDMP are the same as those of the TDMP. The TDMP is a four step process. The steps are: (1) mission analysis, (2) course of action development, (3) course of action analysis, and (4) decision.

Tactical decision making is a subcomponent of battle command. Commanders make decisions during the planning phase of tactical operations. These decisions are based on the situation and an analysis of possible solutions. Commanders make and manage decisions as part of battle command during the execution of tactical operations. The following vignette from Michael Shaara's novel *The Killer Angels* reconstructs

General John Buford's tactical decision making and vision for the Battle of Gettysburg. The town of Gettysburg, Pennsylvania, was the junction of twelve roads that lead to four major cities. Terrain in the area includes rolling hills, broad shallow valleys, and ridge lines. In July 1863, Union and Confederate forces moved toward an unplanned and uncontrollable battle, the Battle of Gettysburg. The following is Buford's mental and verbal visualization of the battle. Buford is observing the future battlefield from an overlooking hill, Cemetery Hill. Buford relays his vision to his officers and staff.

> [Buford] thought it was only a raiding party. Buford had been tracking Lee's army, shadowing it from a long way off. Buford said aloud, "He's coming this way . . . Lee's turned . . . That's the main body. You know what's going to happen in the morning? The whole damn Reb army's going to be here in the morning. They'll move right through town and occupy those damned hills . . . and when our people get here Lee will have the high ground and there'll be the devil to pay." He [Buford] saw it [battle] with such metal brilliance: "Meade will come slowly, cautiously, new to command, back from Washington, wires hot with messages: attack, attack. So he will set up a ring around the hills and when Lee's all nicely dug in behind fat rocks Meade will finally attack, if he can coordinate the army, straight up the hillside, out in the open in that gorgeous field of fire, and we will attack valiantly and be butchered valiantly . . . the vision [to Buford] was brutally clear . . . Few things in a soldiers life were so clear as this . . . knowing it [attack] will fail . . . but you cannot stop it . . . there is no good ground south of here. This is the place to fight."
>
> "If we made a stand here, how long do you think we could hold? Dismounted, along a ridge, with all night to dig in, the boys could hold for a while." There were only 2,500 of them (Buford's men) they could dig in behind a fence and hold anybody for awhile.
>
> Buford rode out far enough to see the pickets for himself, then rode back toward the green hills. Buford's scouts confirmed Lee's army was coming this way. Buford said "Lee's trying to get around us, between us and Washington."
>
> Buford gathered his officers and staff. He told them, "We're going to hold here in the morning. We'll try to hold long enough for General Reynolds to come up with some infantry. I want to save the high ground, if we can. I think they'll be attacking us at dawn. We ought to be able to stop them for a couple of hours. I don't know how long it will be necessary. It may be a long time. We can force them to deploy, anyway, and that will take up time. Also that's a narrow road Lee's coming down, and if we stack them up back there they'll be a while getting untracked. But the point is to hold long enough for the infantry, If we hang onto

> these hills, we have a good chance to win the fight that's coming. Understand?" Buford made his headquarters in a Seminary. In the morning he would have a good view (of the battle) from the cupola. (Shaara 1974, 33-48)

Buford's combat experience, intuition, knowledge of the enemy, knowledge of his own army, and high command enabled him to visualize the battle as he observed the future battlefield from a hilltop. On the larger more complex battlefield of today, commanders do not routinely have the option of viewing the battlefield before the battle. Mission planning begins with a mission analysis conducted by the commander and staff. Mission analysis, as stated in FM 101-5 (May 1997), enables the commander to begin his battlefield visualization.

Mission Analysis

Mission Analysis is the first step of the TDMP, which defines the parameters of the problem and updates the commander on the current and projected situation. Mission analysis is critical to the TDMP because it allows the commander to begin to visualize the battlefield (FM 101-5 1997, 5-5). The process involves gathering facts, making assumptions, and analyzing the higher commander's intent. FM 101-5 list seventeen substeps to Mission Analysis (see figure 2) as outlined in FM 101-5. Each staff officer gathers information and presents it in the form of a staff estimate. These estimates provide the commander with an initial visualization of the battlefield and assist him in providing further guidance to his staff and planners for COA development and analysis. Army staffs were not organized during the Civil War as they are today. Buford conducted mission analysis as he viewed Gettysburg from a hilltop. Of the seventeen mission analysis sub-steps, three are critical, (step two) intelligence preparation of the

battlefield (IPB), (step three) determining essential task, and (step eight) determining CCIR. These three steps, in conjunction with and supported by the other fourteen steps, identify for the commander what he must do; the environment he has to do it in; and what he must know to do it.

Step 1.	Analyze the higher headquarters' order.
Step 2.	Conduct initial intelligence preparation of the battlefield (IPB).
Step 3.	Determine specific, implied, and essential tasks.
Step 4.	Review available assets.
Step 5.	Determine constraints.
Step 6.	Identify critical facts and assumptions.
Step 7.	Conduct risk assessment.
Step 8.	Determine initial commander's critical information requirements (CCIR).
Step 9.	Determine the initial reconnaissance annex.
Step 10.	Plan use of available time.
Step 11.	Write the restated mission.
Step 12.	Conduct a mission analysis briefing.
Step 13.	Approve the restated mission.
Step 14.	Develop the initial commander's guidance.
Step 15.	Issue the commander's guidance.
Step 16.	Issue a warning order.
Step 17.	Review facts and assumptions.

Figure 2. Steps in the mission Analysis (FM 101-5 1997, 5-5)

The commander and staff analyze specific and implied tasks to determine what tasks must be performed to accomplish the mission. The tasks that must be performed to accomplish the mission are the commander's essential tasks. Once the commander understands what he must do to accomplish his purpose, he must then gain an understanding of the specific environment surrounding the operation. The commander

gains information about the enemy as well as his own units projected capabilities. Sun Tzu explains the commanders requirement to gather information as thus:

> Know the enemy and know yourself; in a hundred battles you will never be in peril. When you are ignorant of the enemy but know yourself, your chances of winning or losing are equal. If ignorant of both of your enemy and of yourself, you are certain in every battle to be in peril. (Sun Tzu 1963, 129)

Knowledge and understanding of self and enemy is gained through initial IPB during mission analysis and continually upgraded throughout the planning process and mission execution.

IPB is the US Army's current process for understanding the battlefield and the options it presents to friendly and enemy forces. IPB supports the commander and staff and is essential to estimates and decision making. It provides the basis for intelligence collection and synchronization to support COA development and analysis. It is a dynamic staff process driven by the commander, that continually integrates new information into the process.

> The key ingredient at all stages of the process is information--timely, accurate, germane and useful information on, friendly and enemy forces, and the environment in which they operate. (Army Command and Control Master Plan 1990, 3-21)

Execution of IPB is the responsibility of the Intelligence officer, but the commander and each staff officer must conduct IPB in their areas as well.

> IPB is a systematic, continuous process of analyzing the threat and environment in a specific geographic area. It is designed to support staff estimates and military decision making. Applying the IPB process helps the commander selectively apply and maximize his combat power at critical points in time and space on the battlefield by--
> - Determining the threat's likely COA.

- Describing the environment your unit is operating within and the effects of the environment on your unit. (FM 34-130 1994, 1-1)

IPB is a continuous process which cycles through four steps each time IPB is conducted.

> The IPB process is continuous. You conduct IPB **prior** to and **during** the command's initial planning for an operation, but you also continue to perform IPB **during** the conduct of the operation. Each function in the process is performed continuously to ensure that--
> - The products of IPB remain complete and valid.
> - You provide support to the commander and direction to the intelligence system throughout the current mission and into preparation for the next. (FM 34-130 1994, 1-1)

IPB consist of four steps. First, IPB defines the battlefield environment. The characteristics of the environment that influence friendly and threat operations must be identified. This assists in determining the area of interest (AI) and identifying gaps in current intelligence. The AI is the area outside the area of operations (AO) which may have a direct or indirect impact on the actions occurring in the AO. Second, IPB describe the battlefield's effects. This includes the evaluation of all aspects of the environment with which both sides must contend, including terrain, weather, infrastructure, and demographics in the area of operations. Third, IPB evaluates the enemy. This evaluation initially determines how the enemy normally organizes for combat and fights under similar circumstances. In order to fully understand enemy capability, the human element of a "thinking" enemy, must also be considered. A doctrinal template is the result of this step. The doctrinal template portrays how the enemy will fight based on enemy tactics without geopolitical, weather, and terrain constraints. Movement rates are determined during enemy evaluation. TPLs are developed from the movement rates. TPLs portray

friendly and threat movement over a period of time. Fourth, IPB determines enemy COAs using results from the previous steps and the effects of the specific environment in which the enemy operates. These enemy COAs provide a basis for formulating potential friendly COAs. Buford conducted his IPB of Gettysburg viewed the future battle field from a hilltop. He actually saw the enemy and the terrain. Buford predicted from what he saw and knew of the enemy, how the enemy would fight the battle.

Each enemy COA has three parts: a situation template (SITTEMP), a COA description and options, and a list of high-value targets (HVT). High value targets are assets the enemy needs for success. Their identification is critical to the friendly commander's efforts to defeat the enemy. The location and disposition of HVTs may also a identify an enemy COA. A SITTEMP portrays the enemy's expected disposition should he adopt a particular COA (FM 101-5 1997, 5-6). There is a SITTEMP for each enemy COA. This allows the commander and staff thorough examination of enemy options for each COA. An NAI identifies the location in time and space where the enemy has an option or decision point The commander and staff focus on the NAIs because this is where something is expected to happen. NAIs focus collection efforts on specific points or areas of the battlefield. NAIs are therefore integral to the R&S and intelligence collection plans. NAIs tell *what*, *when* and *where* to look based on the SITTEMP.

The staff develops an event template from the SITTEMP. The event template uses NAIs, and TPLs to show approximately *when* and *where* enemy critical events occur. The event template confirms or denies the SITTEMP. In relation to the decision cycle, the object is to react faster than the enemy and by predicting when the enemy will

react, the commander can plan against the enemy action. The event template gauges enemy and threat movement rates and compares rates of movement between movement corridors and avenues of approach.

> Event templating determines the optimum time and place to interdict the enemy to achieve maximum delay, disruption, destruction, and when and where to achieve decisive exploitation of identified weakness. The event template cues collection assets based on friendly and enemy movement. (FM 34-3 1990, 4-1)

The SITTEMP may, on the surface, appear to pose a dilemma for non-standard forces. The SITTEMP is based on a doctrinal template and nonstandard forces may not follow a set doctrine. The SITTEMP is then based on what the nonstandard forces want to accomplish and how the are able to accomplish their goal.

The event template is also a guide for R&S planning and depicts where and when to collect information which will indicate which enemy COA has been adopted. The event matrix provides written details for the event template.

> The event matrix supports the event template by providing details on the type of activity expected in each NAI, the times the NAI is expected to be active and its relationship to other events on the battlefield. (FM 34-130 1994, 2-51)

The results of the initial IPB are the modified combined obstacle overlay, enemy SITTEMP, event template, R&S and intelligence collection plans. These products are updated and used throughout the operation. The enemy COAs developed are war gamed during COA analysis. SITTEMPs must be completed before the event template is developed and the commander and staff begin COA development. The event template will assist the commander in understanding when the threat may make a decision and identify where specific threat activities may occur (FM 101-5 1997, 5-6).

The event template and initial intelligence collection plan help the commander determine CCIR. CCIR identifies information needed to support the commander's battlefield visualization and to make critical decisions which determine or validate courses of action. CCIR has a direct affect on the success or failure of the mission. CCIR is time sensitive in that CCIR drives decisions at DPs. Once the enemy passes a friendly DP in time or space, that DP is no longer valid for affecting the situation. The reason the DP becomes invalid is because DPs are time sensitive and programmed to be executed when the enemy force reaches the specific friendly DP. The commander uses critical information, experience, mission, higher intent, and staff input to develop specific situation-dependent CCIR. CCIR is adjusted as the situation changes. CCIR is an integral component of IPB and war gaming. CCIR is expressed as priority intelligence requirements (PIR), essential elements of friendly information, and friendly forces information requirements (FFIR). PIR is information about the enemy which confirms or denies enemy COAs. EEIR is information the commander needs to protect friendly forces from the enemy's information gathering systems. FFIR is information the commander needs to know about the friendly force capabilities, especially friendly force failure (FM 101-5 1997, 5-7).

The commander conducts his own mission analysis and in conjunction with the seventeen steps of mission analysis (figure 1) sees the battlefield and an understands the tactical mission. The commander is now ready to provide guidance to his staff for COA development.

Course of Action Development

The commander and staff develop friendly COAs based on the commander's guidance and intent, IPB and other information from mission analysis.

> The staff develops friendly COAs based on the facts and assumptions identified during IPB and mission analysis. Incorporating the results of IPB into COA development ensures that each friendly COA takes advantage of the opportunities the environment and threat situation offer and is valid in terms of what they will allow. (FM 34-130 1994, 1-6)

The first phase of several analytical steps used to synchronize interdependent subordinate units and BOS effects is Course of Action Development. Another implied rationale of course of action development is the to employ finite resources and maximize BOS effects to achieve overwhelming combat power at the decisive point of an engagement.

There are six steps to COA development outlined in FM 101-5. These steps are: (1) Analyze relative combat power, (2) generate options, (3) array initial forces, (4) develop the scheme of maneuver, (5) assign headquarters, and (6) prepare COA statement and sketch. A course of action must meet four criteria. A course of action must be suitable, feasible, acceptable, and distinguishable. A suitable COA complies with the commander's guidance. A feasible COA meets the mission requirements within available time, space, and resources. An acceptable COA accomplishes the mission with an acceptable cost in casualties, time, and resources. If there is more than one COA they must be distinguishable from each other. COAs can differ from one another in the use of reserves, task organization, time of action, or scheme of maneuver.

When developing a COA, the staff looks at the AO and divides the AO into bands. There will be a specific action (possible essential task) required within each band

and this action determines the parameters of the band. The commander and staff develop sub-COAs to accomplishing the action for that specific band. Sub-COAs are developed for each band, optimally addressing the band that contains the decisive point for the overall mission first. The commander identifies the decisive point for the overall mission in his "commander's guidance." The decisive point is where the commander believes he will accomplish his purpose. The staff works from the decisive point back to the FEBA or LD/LC. The decisive point determines combat power requirements and necessary BOS effects integration to bring overwhelming combat power to bear and accomplish the units purpose. This is done with each preceding band of action. Within each band there are several COAs to achieve the particular mission of that band. The most viable sub-COAs of each band become part of the overall COA scheme of maneuver. The remaining sub-COAs may become possible branches.

This is the first effort that the staff makes at synchronization as they attempt to arrange activities by time and space to mass at the decisive point. COA development enables staffs to develop a synergistic plan, via synchronization, to accomplish a mission. COAs help the commander and staff to identify decision points. The friendly COA must address enemy COAs developed by the commander and staff in planning and as they evolve during the battle. The implied rationale for COA development is an attempt to design a plan leveraging finite resources and maximize BOS efforts. The output of COA development is a comprehensive and flexible plan developed within planning time constraints (FM 101-5 1997, 5-11). As a rule of thumb, three COAs are developed for an action. The best COA is selected following analysis of the COA.

Course of Action Analysis

The COA analysis identifies which COA accomplishes the mission with minimum casualties while best positioning the force to retain the initiative for future actions. COA analysis helps the commander and his staff determine how to maximize combat power against the enemy while protecting friendly forces and minimizing collateral damage. COA analysis provides the commander and staff with as near an identical vision of the battle as possible. The commander and staff can anticipate battlefield events and determine conditions and resources required for success. The anticipation of battlefield events, determining conditions and resources required, all provide input as to when the commander will have to make a decision and what the parameters are for his decision. COA analysis enables the commander and staff to determine when and where to apply the force's capabilities to bring about decisive action. Through COA analysis the commander and staff refine the IPB focus on enemy strengths, weakness, center of gravity, desired end state, and decisive points. COA analysis continues the BOS synergy initiated with COA development, and identifies the required BOS effects, and coordination requirements to produce synchronized results. COA analysis helps the commander and staff determine the most flexible COA (FM 101-5 1997, 5-16).

COA analysis uses the wargaming process. War gaming is a process by which commanders and staffs attempt to visualize the flow of the battle and to provide realization of tactical possibilities by focusing on each phase of the action in a sequence. Buford visualized the battle of Gettysburg. He clearly saw the Union forces defeat unless

certain action were taken. War gaming is a process of action, reaction, and counteraction. War gaming considers friendly dispositions, strengths, weakness, enemy assets, probable COAs, and characteristics of the area of operations. It relies on a doctrinal foundation, tactical judgment and experience. During war gaming, the commander and staff develop a detailed plan for the COA. The war game tests a COA and determines its strengths and weaknesses. More importantly, the war game allows the commander and staff to improve a developed COA to account for unforeseen critical events, requirements or problems (FM 101-5 1997, 5-16).

During the war game, the intelligence officer develops and refines enemy decision points in relation to the friendly COA and projects enemy reactions and losses to friendly actions. The commander and intelligence officer also refine and identify information requirements. The event template and event matrix are also refined to include NAIs that support decision points, TAIs and high value targets. The SITTEMP is refined to reflect updated enemy COAs (FM 101-5 1997, 5-17).

According to FM 101-5, there are eight steps that the staff follows during the wargaming process: (1) gather the tools, (2) list all friendly forces, (3) list assumptions, (4) list known critical events and decision points, (5) determine evaluation criteria, (6) select the wargaming method, (7) select a method to record and display results, and (8) war game the battle and assess the results. The most important of these steps in relation to decision aids are step 4, 7, and 8.

Step 4 list the known and critical events and decision points. Mission accomplishment is directly influenced by critical events. They include events that trigger

significant actions of decisions, complicated actions requiring detailed study and essential tasks identified during mission analysis. The list of critical events includes major events from the unit's current situation to the accomplishment of the mission. DPs are events or locations on the battlefield where tactical decisions are required during mission execution. DPs dictate when and where a decision should be made to have maximum impact on friendly or enemy COAs. Critical events must be listed for each enemy COA. DPs relate to identified critical events and are linked to NAIs and TAIs (FM 101-5 1997, 5-18).

There are three types of decision points. The first type of DP is a trigger which indicates a point at which some action is initiated. The second type of DP is based on enemy action and requires a tactical decision either to continue or abandon a COA, or initiate a branch and sequel. The third DP is oriented on friendly action (friendly failure) which requires a tactical decision either to continue or abandon a COA, or initiate a branch and sequel.

The battle is war gamed and assessed during step 8 of the war gaming process. During war gaming, the commander and staff try to foresee the dynamics of a battle's action, reaction, and counter action. The command and staff study how to set the conditions for success, protect the force, and shape the battlefield. Each phase of the action is analyzed to identify the task the force must accomplish. The war game follows a action-reaction-counteraction cycle. Actions are those events initiated by the side with the initiative. Reactions are the other sides actions in response. Counteractions are the first sides responses to the reactions. This sequence of a action-reaction-counteraction

continues through each event until the action is complete or until the commander determines he must use some other COA to accomplish the mission. Critical events that arise during the action-reaction-counteraction process are DPs which may require the commander to initiate a branch and sequel in order to complete the operation. The commander will identify criteria for each DP during the war game. Branches and sequels should account for all other enemy COAs and not just the "most likely enemy COA."

Wargaming produces several results critical to the commander's tactical decision making. CCIR are refined and finalized forming the basis for the intelligence collection plan and incorporated into the reconnaissance and surveillance plan. CCIR, intelligence collection plan and R&S plan support NAIs, TAIs, and DPs. The location and information needed to support DPs, NAIs, and TAIs are identified and confirmed during war gaming. War gaming produces a refined or modified plan which includes branches and sequels. These branches and sequels are linked to DPs supported by NAIs. FM 101-5 list several other results of the wargaming which indicate the necessity for recording the vast amount of tactical information produced during the war game. A product of the war gaming is the DST.

The DST graphically records the results of war gaming and provides the commander with a tool that indicates when a decision must be made. "DST enables the commander to apply combat power in a timely manner" (FM 34-3 1990, 4-1). The DST synchronizes BOS to the commander's advantage. The DST consist of TAIs, DPs, TPLs, and a BOS synchronization matrix. The DST is "used to provide a guide as to when tactical decisions are required relative to battlefield event(s)" (FM 34-3 1990, 4-6). The

R&S plan supports the DST which in turn synchronizes the R&S effort. DPs are supported by NAIs which in turn drive R&S and intelligence collection plans. This relationship is captured on the DSM.

The DSM supplements the DST. The DSM provides a written tool which relates each DP to the event or associated TAI or NAI requiring a friendly reaction. In addition, the DST list observation data, location, criteria, action to occur, and element to act at each DP. The DSM will also indicate branches and sequels.

Decision

The commander and staff refine and modify the COAs during COA analysis. If more than one COA is analyzed, then the COAs are compared to determine the optimal COA for the operation. Decision criteria selected by the commander and staff as well as each COA's relative advantages and disadvantages are used in comparing the COA options. Outputs of COA comparison are a staff recommendation for a COA to pursue, task organization requirements, synchronization refinements, projected enemy defeated, additional support requirements, additional command and control (C2) requirements, branches and sequels, DPs, and refined CCIR. Finally, a COA, which is believed to be the most advantageous, is approved by the commander.

Conclusion

This chapter outlined the four steps of the TDMP to highlight the doctrinal and implied rationale for decision aids. The basis for the commander's tactical decision making begins with mission analysis. Important outputs of mission analysis are CCIR, the SITTEMP and the event template. The event template is the basis for the DST

developed during the wargaming process of the COA analysis step. During COA analysis, decision aids are refined and modified. CCIR drives NAIs and TAIs which are supported by the R&S and intelligence collection plan. These decision aids support DPs, which in and of themselves drive CCIR. Decision aids are nested amongst themselves. This nesting concept is graphically shown in Figure 3. The DST and DSM capture the other decision aids in graphic and written mediums. The DST and DSM become the commander's tools for tactical decision making during mission execution.

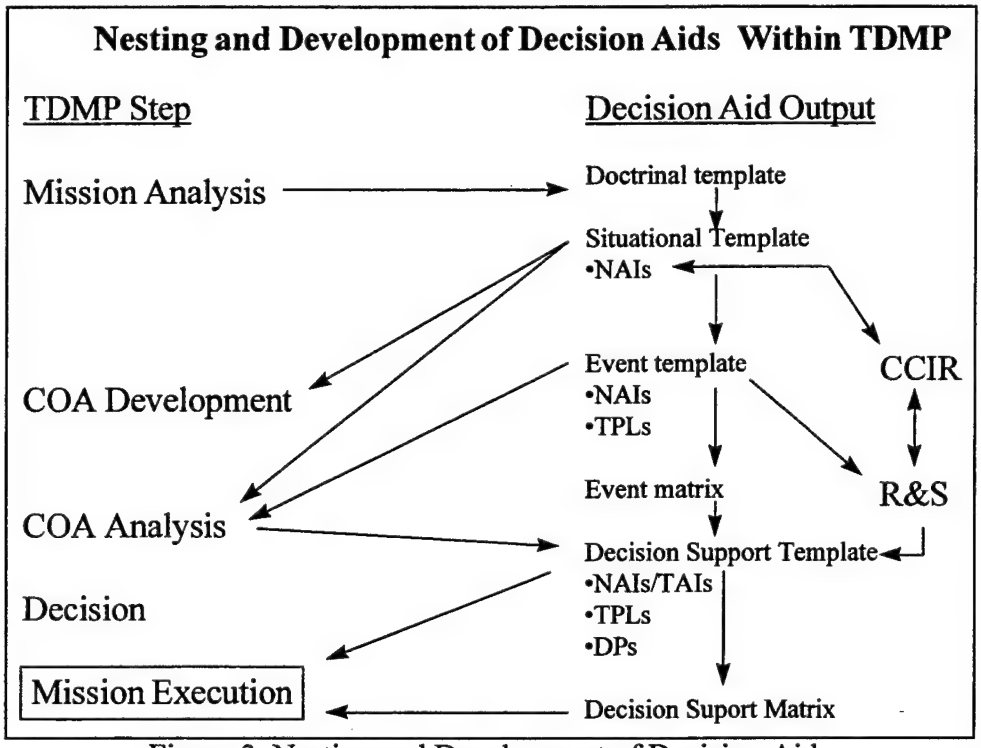

Figure 3. Nesting and Development of Decision Aids

The doctrinal rationale for the TDMP is clear: to produce the most appropriate mission plan (optimization). However, the implied rationale for the TDMP, to produce a

product(s) to enable the commander to make tactical decisions during mission execution is not explicit. The TDMP does not explain or place the proper emphasis on the purpose for decision aids. The logic behind the use of decision aids is missing. The importance of the relationship decisions aids share with CCIR, the intelligence collection plan, R&S plan and tactical decision making is also not explained.

Without a clear explanation within the TDMP for its purpose and relationship to enabling tactical decision making during mission execution, several important items are over looked or disregarded as inconsequencial. The overall purpose of the TDMP, to enable the commander to make tactical decisions during tactical execution, is overlooked as the TDMP is geared toward producing a optimized synchronized plan. The mission plan must last beyond the first engagement or decision executed by the enemy. Optimized mission plans are usually not very flexible. Suboptimized plans by design are more flexible as they are supported by branch plans and sequels. The methodology within the TDMP for decision aids produce a sub-optimized plans.

The art of the commander's tactical decision making is dependent upon the development and refinement of decision aids during the TDMP. The development of the decision aids satisfy the commanders requirements for decision making during mission execution.

CHAPTER 4

DECISION-POINT TACTICS AND TACTICAL DECISION MAKING

> In forming the plan . . . it is requisite to foresee everything the enemy may do, and be prepared with necessary means to counteract it. (1831, II)
>
> Napoleon Bonaparte, *Maxims*

Introduction

This chapter will show that DPT is a function of tactical decision making and not a new concept. DPT is based on the idea that mission execution is driven by a series of decisions that the commander makes and uses to control execution. American football illustrates the concept of using decision points with the quarterback assuming the role of commander. The commander's tactical planning is analogous to either an automatic play or a play in the huddle being called. The decision is made for the quarterback to step back and pass long. This play is the base plan. When the quarterback comes up to the line of scrimmage and evaluates the defense (threat), this is the quarterback's equivalent of the commander's reconnaissance. The quarterback and team know the defense will react to the perceived offensive maneuver. After the quarterback receives the snap, the quarterback and team begin executing the play. If all goes as planned, the quarterback steps back and passes to a receiver. But in a contest of wills, things rarely go as planned. IF the quarterback is not able to pass as planned, (assuming the ball is not down) he has to decide what to do next. The quarterback's decision points are to: (1) give the football to the fullback or pull and run, (2) continue down the line and pitch to the fullback, or keep it, or (3) step back and pass short. Each portion of the play's execution, requires the

quarterback to make decisions on the move. The success or failure of these decisions is critical to the success or failure of the play. Success or failure is also determined by the teams ability to react to the quarterback's decisions. However, combat does not directly correlate to the game of football because combat is not limited to the short period of time it takes to execute a football play.

The term "decision point tactics" is used to describe the collective interaction, integration and results of decision points, the DST, the DSM, and the TDMP to employ "available means at a specific point in space or time where the commander anticipates making a decision concerning a specific friendly course of action. This decision is directly associated with friendly activity, threat force activity (action or reaction), or the battlefield environment" (CTC Quarterly Bulletin No. 97-4). Chapter 3 described the integration of decision points, the DST, the DSM to the TDMP and the commander's tactical decision making during mission execution. This chapter examines the identical nature of DPT and the existing nature of decision aids in the TDMP. The incorporation of tactics, techniques and procedures (TTP) associated with DPT provide the "how to" for tactical decision planning not explicit in current TDMP doctrine.

Background of Decision-Point Tactics

In the National Training Center's journal *Red Thrust Star* (October 1996), Lieutenant Colonel Pete Palmer published an article entitled "DPT: Fighting the Enemy, Not the Plan." This is the first publication using the term DPT. Lieutenant Colonel Palmer later published several other articles on the application of DPT to tactical actions. This series of articles has been collected and published in *CTC Quarterly Bulletin No. 97-*

4. There are other service component publications addressing DPT, but they merely restate the basic information contained in the *CTC Quarterly Bulletin.*

The OPFOR at the National Training Center (NTC) reevaluated their planning and execution doctrine as they conducted systems upgrades. As a result, warfighting maneuver tactics were revised and the concept of DPT initiated.

> As the OPFOR studied its new doctrine and learned the nuances of the new systems upgrades. . . . Extensive planning, experimentation, and simple trial and error became the focus of the OPFOR. This process led to tactics that relied more on maneuver and finesse than on firepower. The concept of decision-point tactics for the OPFOR was developed through this training and learning process. (CTC Quarterly Bulletin No. 97-4)

DPT is not a doctrinal term, but it is a term used to capture the idea of commanders utilizing decision points during mission execution. The concept of using decision aids in the execution of tactical missions is embedded in current Army doctrine as explained in chapter 3.

> Although not specifically titled decision-point tactics, the basic concept and technique of using decision points is embodied in our current Army doctrine. (CTC Quarterly Bulletin No. 97-4)

Lieutenant Colonel Palmer states that:

> There are four imperatives necessary to ensure the success of decision-point tactics. These imperatives are Battlefield Vision, Successful Reconnaissance and Counter-Reconnaissance Operations, Well-Trained Crews and Platoons, Effective Deception Operations. (CTC Quarterly Bulletin No. 97-4)

This thesis addresses two of the imperatives because they directly relate to the TDMP. These imperatives are battlefield vision, reconnaissance and counter-reconnaissance. The commander comprehends the battlefield through the TDMP's mission analysis step and the wargaming phase of the COA analysis step. Decision aids

and decision points are in congruence with the intelligence collection plan and reconnaissance operations. DPT is therefore not a stand alone process, but rather an integrated procedure which can only be accomplished through the execution of the TDMP. "The key point is . . . always execute the DDMP" (CTC Quarterly Bulletin No. 97-4). An explanation is necessary to prevent confusion. DDMP is the deliberate decision making process or full MDMP in its detailed, deliberate and sequential processes.

It is imperative the commander visualize the battlefield. The commander shares his vision with his staff and they use it for mission planning and mission execution.

> The commander and his staff must have a shared vision of the battlefield throughout the conduct of the engagement. Besides continual experience in realistic combat-like conditions, the primary means of gaining battlefield vision is through the use of the Deliberate Decision-Making Process (DDMP). (CTC Quarterly Bulletin No. 97-4)

Napoleon provides an example of battlefield vision at Austerlitz, December 1805. Napoleon was able to observe the battlefield prior to the battle. He identified enemy options by observing where the enemy could maneuver and when the enemy would have to make a decision. During the battle, on the morning of 2 December 1805, Napoleon observed the Russian columns moving south along the Pratzen Heights. Napoleon was notified that the combined forces of Austrians and Russians had captured the villages of Telnitz and Zokolnitz. These villages were approximately two miles to his south. The capture of these villages resulted in Davout's III Corps being pushed back on the French right flank. After consulting with the IV Corps commander, Marshall Soult, Napoleon discovered that the counterattacking divisions could be on the heights within twenty

minutes. Napoleon had visualized the battlefield and conceived a plan which required careful planning. He placed himself at the critical point on the battlefield. Napoleon had to counterattack when the enemy's center was at its weakest level. At the same time, Napoleon could not allow the defeat of his right flank. From his vantage point on the battlefield, Napoleon could observe enemy regiments shifting south from the center. He received reports of the battle on his right flank, and maintained contact with the counterattack force commander. The outcome at Austerlitz may be considered one of Napoleons greatest victories (Chandler 1966, 418-425).

Austerlitz was ideal for a commander. Napoleon was able to visualize the battle and then observe the battle develop as he imagined. In understanding enemy options and when they would most likely occur during the battle, Napoleon was able to commit his counterattack at the appropriate time. The size and complexity of today's battlefield prevents commanders from achieving the degree of battlefield awareness that afforded Napoleon his victory. Beginning with mission analysis, the TDMP assists the commander in gaining his battlefield vision and provides the commander with battlefield awareness during mission execution.

Mission Analysis

One of the three most important steps of mission analysis (discussed in Chapter 3) was the IPB. IPB is the process which defines the battlefield and the options available to friendly and threat forces. Lieutenant Colonel Palmer's DPT begins with an analysis of mission, enemy, time, terrain, and troops (METT-T). These elements are all included in and integral to the mission analysis step of the TDMP.

From the initial IPB the staff produces the SITTEMP, event template and develops CCIR and IR. These products are critical for COA development and the war gaming phase of COA analysis.

> Although a full intelligence preparation of the battlefield (IPB) process is necessary, this relatively simple tool can summarize some of the more important considerations for decision-point tactics. This analysis is critical for determining the basic conditions and norms used in the wargaming process. (CTC Quarterly Bulletin No. 97-4)

The enemy is an important and the most difficult factor to analyze. The commander and staff can determine the organization of the enemy and his possible deployment on the ground, but determining likely enemy COAs is difficult against an actual enemy. The commander and staff should develop all possible enemy COAs to gain as accurate an analysis as possible.

> Obviously, inaccurate analysis leads to invalid results. Therefore, analysis should include several alternatives and options and they all should include the enemy perspective. (CTC Quarterly Bulletin No. 97-4)

The "enemy perspective" deals with how the enemy visualizes the battlefield and achieves his objectives.

Once enemy COAs are developed, they are assigned a probability based on the likelihood of the particular enemy COA being executed. Friendly COAs are developed based on the enemy COAs with the higher probabilities that. For each enemy COA, a SITTEMP is developed. The SITTEMP uses enemy doctrine to portray the enemy's disposition after considering geographic and political constraints. The event template, developed from the SITTEMP, depicts threat activity in a time-phased sequence. The event template depicts all time and space activities including movement on specific

routes and the impact of artillery and air strikes. "Therefore, it is very important to completely review the impact of terrain on the battle, especially in terms of time and space" (CTC Quarterly Bulletin No. 97-4). Analysis of time is absolutely critical to proper determination of the "where" and "when" of a decision point. This determination enables the commander to affect the battlefield situation.

The commander and staff use the enemy COAs to develop friendly COAs. The commander and staff develop a base plan (COA) from the most probable enemy COAs. The other enemy COAs are not disregarded, but are included as branches and sequels to the friendly base plan. The war-gaming process begins the analysis of enemy and friendly COAs, integration of decision aids, and synchronization of the plan. The analysis is confirmed or denied on the battlefield.

War Gaming

The commander and staff attempt to visualize the flow of the battle through war gaming. They visualize how a COA begins progresses and ends. Then they determine the best way to execute the mission and achieve their mission. In terms of DPT, war gaming is "action/reaction analysis with emphasis on determining ways to make the enemy react in the manner that will best support maneuver options" (CTC Quarterly Bulletin No. 97-4).

Either friendly or enemy may forces may hold the initiative during war gaming. The war game considers friendly dispositions, strengths and weaknesses, enemy assets, and probable COAs.

> The wargaming portion . . . [of] the DDMP is an absolute necessity to understanding and visualizing the battlefield. Through extensive wargaming . . .

> [commander and staff] attempt to visualize all possible situations and subsequent reactions that it will face during an upcoming battle. (CTC Quarterly Bulletin No. 97-4)

Napoleon gained "understanding and visualization" at Austerlitz when he conducted personal battlefield reconnaissance prior to the battle. The idea of a commander's reconnaissance has lost credence in our present army.

War gaming is the most valuable step during COA analysis and "therefore, extensive time and effort is placed into wargaming" (CTC Quarterly Bulletin No. 97-4). War gaming, as described by Lieutenant Colonel Palmer on DPT, tests and improves a developed COA highlighting critical events and decision points. The critical events or DPs identify branches and sequels. As DPs are identified during war gaming, criteria and conditions to execute the DPs and the subsequent actions are determined.

> Determine decision points for each course of action, branch, and sequel and the conditions that must exist to execute that option. Conditions for executing the option are essentially the criteria for choosing a particular decision point. (CTC Quarterly Bulletin No. 97-4)

Lieutenant Colonel Palmer describes the essence of DPT as the "identification of the conditions necessary to execute a decision point" (CTC Quarterly Bulletin No. 97-4), and offers the following example.

> A decision to execute a COA (branch and sequel) to attack along the south wall of the central corridor (at the National Training Center) has to meet the following conditions:
> • the enveloping detachment has to be successful in securing Hill 760
> • no more than three enemy company teams are in a prepared defense on the south wall
> • John Wayne Pass is held or blocked by enemy forces
> • more than one company team is positioned to influence Alpha and Bravo passes in the Northern Corridor. (CTC Quarterly Bulletin No. 97-4)

Establishing criteria for the execution of DPs is also an objective of war gaming in the TDMP. This is also the key to the commander's tactical decision making during mission execution. By understanding "if" a decision must be made, "when" the decision must be made, and "what" options are available, the commander can attempt to gain and maintain the initiative during mission execution. To this end, determining critical events and establishing decision criteria are of the utmost importance. "The most significant piece of information is the conditions identified to execute each COA" (CTC Quarterly Bulletin No. 97-4).

Here again, determining which COA best supports the situation is not the goal. The goal is to develop a suboptimized plan, one that focuses on accomplishing the mission with a base plan adjusted (with branches and sequels) to address a set of enemy COAs. As with the TDMP, it is also necessary during the execution of DPT to record the events, flow and information developed and refined during the war-gaming process.

> OPORDs, synchronization matrixes, decision matrixes (including decision-point conditions), and other staff organization tools are necessary evils. They capture the wargaming data and put it into a recognizable form that can be communicated. (CTC Quarterly Bulletin No. 97-4)

The war game affords the commander the opportunity to analysis enemy and friendly COA. As well, war gaming assist in the identification and development of branches and sequels which provide alternate COAs for executing the mission under a given sets of conditions. At the completion of the war game, the plan and a forecast of the enemy's action is still only the commander's and staff's best guess. The confirmation occurs through action on the battlefield or reconnaissance activities.

Reconnaissance

The commander begins to comprehend the battlefield through mission analysis. War gaming refines this comprehension. Reconnaissance updates this comprehension. Reconnaissance provides information that supports decision making and confirms or denies the probability of various enemy COAs. "Without good reconnaissance, it would be impossible to execute decision-point tactics" (CTC Quarterly Bulletin No. 97-4). Napoleon had real time information because he could see the battle at Austerlitz unfold. Without this information, Napoleon would not have known the optimum time and place to attack with the counterattack force. The modern commander relies on reconnaissance to provide him with the necessary information to make and manage tactical decisions.

As explained in chapter 3, reconnaissance supports NAIs, which are tied to TAIs linked to DPs, which direct and focus reconnaissance efforts. "[DPT] uses NAIs, TAIs and all the other standard Army doctrinal planning techniques to produce the reconnaissance collection plan/counter-reconnaissance plan" (CTC Quarterly Bulletin No. 97-4). Critical events and DPs occur throughout the battle. Therefore, reconnaissance is continuous and time sensitive for the commander's decision process. "Since many of the decision points occur late into the actual execution of the battle, the reconnaissance reporting process must be continuous" (CTC Quarterly Bulletin No. 97-4). The DPs and possible branches and sequels are linked to possible enemy actions or reactions. Reconnaissance reporting provides information about enemy action. This information may or may not support decision criteria established for a specific DP. The commander executes a DP based on the decision criteria met for the specific DP. Due to

the timeliness of DPs, continuous information is required throughout the depth of the battlefield.

> Options occur based on how the enemy forces react either to . . . maneuver or deception operations. Clear identification of enemy reactions is critical to the execution of decision-point tactics. . . . [R]econnaissance assets must be in-depth and reporting must be continuous. (CTC Quarterly Bulletin No. 97-4)

The commander executes the tactical mission, fighting the battle utilizing DPs developed refined during the war game.

Procedure

DPT is not and cannot be conducted independent of the TDMP. An example of the tactical mission planning using DPT is provided at appendix B. This example shows the use of DPT for planning an offensive operation at the National Training Center (NTC). The example at appendix B takes place after the TDMP has been conducted. A base plan that satisfies the most probable enemy COAs has been selected. Chapter 3 pointed out the enemy's highest probable COAs are used to develop multiple friendly COAs. DPT develops a single friendly COA, the base plan, that best addresses the enemy's highest probable COAs. In this manner, the friendly COA is not rendered inflexible by only addressing and being restrained by a single "most likely" enemy COA. The commander and staff are not focused on the development of the best plan that addresses the enemy "most likely" COA. The focus is to develop a plan which addresses a multitude of enemy options (COAs). Flexibility is thereby built into the plan through the identification of multiple enemy options and developing a plan to address the enemy options.

The commander prescribes a directed COA or the staff develops a single COA based on the Commander's guidance. The COA addresses the highest probable ECOA. During COA analysis, the commander and staff war-game the friendly COA developed. This COA is the base plan. Through the previous TDMP steps, the commander and staff have identified decision points. Chapter 3 addressed the three types of decision points.

The first type of DP is a *trigger* which indicates a point at which some action is initiated. The commander and staff establish the location in time or space for the trigger in order to bring about a desired effect.

The second type of DP is based on enemy action and requires a tactical decision either to continue or abandon a COA. The decision is based on whether the enemy action changes the base plan. If the enemy action changes the base plan, that particular COA is abandoned and a branch is initiated.

The third type of DP is oriented on friendly action (friendly failure) which requires a tactical decision either to continue or abandon the base plan. Once again, if the base plan changes, it is abandoned and a branch initiated. The commander and staff identify when and how they will be alerted to friendly failure.

The base plan is "suboptimized" with branches and sequels which address forested and probable enemy action. The branches are initiated based DPs. The branches and sequels to the base plan are denoted as sequentially numbered COAs in the Annex B example.

The war game process follows an action - reaction - counteraction cycle. This cycle is continues throughout the war gaming process until a decision point or action that

disrupts the base plan occurs. If the DP is a trigger, the commander and staff confirm or deny the conditions required to initiate the trigger. Once the trigger is initiated, the war game continues with the next event. Triggers achieve desired effects through initiating a broad range of actions across the span of operating systems.

Upon reaching a DP based on enemy action, the issue for the commander and staff is whether or not the enemy action changes the base plan? DPs based on enemy action require a tactical decision to either continue or abandon a COA, or initiate a branch. If the base plan is still valid, the action continues. If the base plan is no longer valid, the commander initiates an alternative COA (branch) to achieve the desired endstate. During the war game, actions occur which have not been identified as a DP. The commander and staff determine the type of decision to be made and the criteria for the DP. If necessary, a branch plan is developed.

A DP which is oriented on friendly action (friendly failure) also requires a tactical decision to either continue or abandon a COA. If the base plan changes due to the friendly action, then a branch may be initiated. Once again the question is whether or not the friendly action causes the base plan to change? If the base plan is still valid, the unit continues the action. Criteria for friendly force DPs focus on identifying when a friendly force failure is about to occur.

Branch plans are most often linked to the reserve force. The reserve force is very important to the commander for the execution of branches (COAs) off the base plan. The reserve force may be responsible for reacting to one of several branch plans depending on

how the situation develops. The reserve force requires a well lead and trained force with enough combat power to be accomplish a myriad of task.

The conditions for each DP are established in previous steps of the TDMP and refined during the war game process. A situation may occur where the conditions for more than one decision are partially fulfilled. In this case the commander applies his intuition and initiative to make a decision. The decision is supported by the commanders current understanding of the battle, visualization of the battle, forecast of the enemy, and status of friendly forces. The commander applies the "art" of battle command.

The commander and staff accomplish several things during the war game. Overall, a common visualization or forecast of the flow of the battlefield is achieved. The war game allows the commander and staff to synchronize the base plan across time and space in relation to the enemy. Instead of addressing and producing three separate products, a synchronization matrix, DST and DSM, the war game process produces one product, a "hybrid DST". It is called a hybrid DST to distinguish it from the traditional DST which is a graphic representation. The hybrid DST has components of the doctrinal DST, a synchronization matrix, and a DSM. The hybrid DST may consist of a DST which graphically represents the projected situation. As a minimum, the graphic DST displays DPs, NAIs, TAIs, TPLs, and enemy and friendly maneuver. The DSM verbally captures and provides further explanation for DPs, conditions for each DP, the associated NAI or TAI, enemy and friendly actions. The synchronization matrix details relationships between operating systems, activities, units, support functions and key

events. The hybrid DST displays DPs, NAI/TAIs, enemy action, friendly action, and ration of friendly to enemy reaction time. An example of a hybrid DST is at table 1.

Table 1. Hybrid DST

Decision Point *Identifies DP by number*	**NAI/TAI** *Description of NAI/TAI*	**Enemy Action** *Conditions*	**Friendly Action** *Action or COA*	**Time F/E** *Time ratio*

In the Decision Point column, the DP is identified by number, and a brief description of the DP may be given. The numerical identification of the NAI/TAI is provided in the NAI/TAI column along with a description of the NAI/TAI. The enemy action column provides the conditions or enemy action for the DP. The friendly action column provides the friendly action to be taken at the DP. The action to be taken may range from initiating a trigger to initiating a branch COA if conditions are met. The time column addresses the friendly to enemy reaction time. The friendly reaction time must be shorter than the enemy reaction time. The staff need only develop a hybrid DST as a record of the war game and a C2 tool.

An example of the tactical mission planning using DPT is provided at Appendix B. This example shows the use of DPT for planning an offensive operation at the NTC. The "How DPT Were Executed" section of Annex B details how the commander utilized reconnaissance, to confirm or deny enemy action and makes tactical decisions bases on decision criteria. This information would be represented on a DST and DSM for the commander and staff. The DST and DSM are the most significant products of the TDMP because they identify the conditions to execute each COA and actions which may occur at critical events.

Conclusion

This chapter described how DPT is not new in tactical decision making, but is a function of tactical planning and execution. DPT is based on the idea that mission execution is governed by a series of decisions. The commander is better prepared and able to react faster when the decision criteria and subsequent options are identified prior to mission execution. DPT captures the collective interactions and integration of decision aids within the TDMP. This allows the commander to employ available combat power at a specific point in space or time where the commander anticipates making a decision concerning a specific friendly course of action. This decision is directly associated with friendly activity, threat force activity (action or reaction), or the battlefield environment.

The tools of DPT are the same tools used in the TDMP. In fact, the TDMP must be conducted in order to conduct DPT. The desired endstate of DPT is the same as with the TDMP, to enable the commander to know if, when and what decisions to make during tactical mission execution.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

> Theory seeks the advancement of general principles, not absolute ideas. (1978, 208)
>
> S. L. A Marshall, *Men against Fire*

Preface

This chapter first summarizes the conclusions formulated in the previous chapters of the thesis. Then it finalizes the research question and follows with an explanation of some recommendations for the users of the TDMP and doctrine writers of field manuals. The chapter concludes with recommendations for tactical planners applying the TDMP.

This thesis researched the TDMP to determine whether DPT is a function within the TDMP, which satisfies tactical decision making. DPT utilizes and accentuates decision aids to satisfy tactical decision making. The battle forecast (visualization) developed during the TDMP identifies probable enemy courses of action. The "function" of DPT provides a set of solutions and courses of action which achieve mission purpose. The courses of action use decision points which may initiate branch course of actions, thereby sub-optimizing the plan. The nature of suboptimization builds flexibility into the plan.

A suboptimized plan consists of subordinate COAs characteristic of constituents of a base plan which satisfy the most probable and viable courses of action to achieve the mission purpose. The suboptimized plan enhances the tactical commander's ability to

react to changes while carrying out the mission. The thesis discussed the relationship of decision aids (DPs, the DST, and the DSM) embedded within the theory and procedures associated with the TDMP.

Review

Chapter 1, the "Introduction," provided background on military decision making and introduced the problem with associated issues. This chapter establishes the basis for evaluating the doctrinal basis of DPT and its satisfaction of the TDMP for suboptimization of the plan and enhanced mission execution.

Chapter 2, "Concept Development and Doctrine Review," developed the concept for the commanders use of decision aids during TDMP and mission execution. It further developed the concept of the commander's decision cycle during mission execution and its relationship to mission success. The chapter explained that mission success at the tactical level depends on the commander's ability to execute a series of decisions faster and more effectively than the adversary. The commanders decision cycle is effected by the commanders ability to make timely and appropriate decisions. To make tactical decisions, the commander relies on his visualization of the battle and or outputs from the TDMP. Decision aids developed during the TDMP provide the commander the tools to make and manage the execution of tactical decisions.

Chapter 2 also addressed the doctrinal background and use of decision aids. This analysis provided the doctrinal relevancy of decision aids to the TDMP. Decision aids being components of DPT formed the foundation for establishing the doctrinal basis of the DPT as a function of the TDMP. Discussion of past and current trends regarding

decision aids, revealed that decision aids are inadequately addressed in current US Army doctrine.

Chapter 3, "TDMP," defined in detail steps of the TDMP specific to the topic of research. Through analysis of the TDMP, the embedded nature of decision aids (DPs, the DST, and the DSM) is highlighted. The analysis detailed the interrelationship between the CCIR, DPs, NAIs, R&S, DPs, the DST, the DSM and the TDMP itself.

This thesis outlined the four steps of the TDMP to highlight the doctrinal and implied rationale for decision aids. The basis for the commander's tactical decision making begins with mission analysis. Important outputs of mission analysis provide the basis the war gaming process of the COA analysis step. During COA analysis, the relationship and importance of decision aids becomes inherent as decision points are supported by CCIR which drives NAIs and TAIs supported by the R&S and intelligence collection plan. The DST and DSM capture the other decision aids in graphic and written form. The DST and DSM become the commander's tool for tactical decision making and C2 during mission execution.

The doctrinal rationale for the TDMP is clear, to produce the most appropriate mission plan (optimization). However, the implied rationale for the TDMP, to produce a product(s) to enable the commander to make tactical decisions during mission execution is not explicit. The TDMP does not explain or place the proper emphasis on the purpose and development of decision aids.

Chapter 4, "DPT and Tactical Decision Making," defined DPT as a function of the TDMP and detailed how decision aids (DPs, the DST, and the DSM) are also

components of DPT. The chapter illustrated that DPT is not a new concept, but rather an existing function within the TDMP which utilizes embedded existing doctrinal concepts. DPT is formulated on the idea that mission execution is governed by a series of decisions. The commander is better prepared and able to react when possible future decisions and their solutions have been identified beforehand.

Conclusion

DPT is an integral part and function within the TDMP. There exist a doctrinal foundation for decision aids. Decision aids are embedded within the TDMP. Decision aids equate to DPT. The integration and emphasis of decision aids within tactical planning enables planners to meet the commanders requirements for tactical decision making during mission execution. By addressing decision aids and their sub-components, commanders and staff are able to develop and execute a suboptimized and synchronized plan.

Currently US Army doctrine does not include the integral part and function of decision aids within the procedure of the TDMP. There is a systemic shortfall in current US Army doctrine. The planning methodology does not include the function of decision aids or adequately address decision aids in the analytical aspects of the TDMP. The function of decision aids which equates to DPT, refers to the decision aids and their relationship/integration within the TDMP and the commanders tactical decision making during mission execution.

The current planning methodology does not adequately deal with enemy uncertainties. The current focus in on the "most likely" and "most dangerous" enemy

course of action. As a consequence, planners of this methodology do not always account for all probable enemy actions when formulating friendly courses of action. The current trend leads to synchronization as the primary objective of planning. While a well synchronized plan is produced, it neglects a thorough consideration of a thinking enemy. A key function of tactical planning is to visualize how the battle will unfold having considered all possibilities. Having considered the possibilities, the commander and staff are in a better position to develop friendly courses of action. A planning methodology that does not adequately consider all probable enemy courses of action cannot be satisfactory and by its restricted nature is inflexible. Decision aids initiated during the mission analysis step enable the commander and staff to identify and plan against enemy actions. The end result being a robust suboptimized plan that counters most enemy options.

The effective tactical commander continually visualizes the battlefield and consistently, effectively, and quickly moves through his decision cycle during tactical mission execution. This requires that the impact of the TDMP go beyond producing the plan to satisfying the plan through its execution in order to achieve the commanders desired endstate. To be satisfied, the plan must be suboptimized, which provides as many branches necessary to counteract enemy reaction and other "fog" of battle. To accomplish this, it is imperative that tactical planners identify decisions the commander may and must make during tactical execution of the plan. To this end, the procedures and functions within the TDMP are focused on the commanders tactical decision making during mission execution.

A suboptimized plan is a flexible plan because it creates options for the commander. A synchronized plan if not suboptimized has fallen short of the goal for the TDMP to *direct success in battle*. The current US Army tactical planning methodology is focused excessively on the single tracked product, a synchronized operations plan. This is an inadequacy with the TDMP because the emphasis is not placed on the tactical mission execution.

Tactical planning in its pure form is time consuming. Much of the staff's planning time is wasted producing three courses of action. Often, very little constructive planning is received by the staff from the commander. As a result, more time is wasted developing a fourth course of action as the commander and staff become more aware of the situation. A technique of DPT is for the commander and staff to produce a base plan which addresses the most probable enemy courses of action. The base plan is suboptimized through the wargaming process. The suboptimized plan addresses as many enemy courses of action as possible. The planning focus is on the execution of the plan and the decisions the commander will have to make and manage during mission execution. The TDMP can not be superseded with shortcuts, checklist, or abbreviated decision making processes for any reason. These are not solutions to the problem because appropriate analysis is not being conducted during mission planning to enable the commander to make tactical decisions during mission execution. When this occurs, the commander is not able to identify DPs and employ available means at a specific point concerning a specific friendly course of action directly associated with enemy activity. This, in turn, hinders the commander's ability to optimize tactical mission execution.

Recommendations

The US Army's TDMP needs to be developed in army doctrine. This should include an in-depth explanation of the purpose, integration, and development of decision aids within the TDMP and during tactical mission execution. The development will provide the tactical commander and staff with a procedure and understanding that not only satisfies the analytical nature of tactical decision making, but enables the tactical commander to optimize tactical mission execution. This study provides a basis for a doctrinal enhancement to the US Army's TDMP. The doctrinal enhancement will require FM 101-5, FM 101-5-1, and FM 34 series to be revised with explicit explanation of the purpose, integration. and development decision aids. The tactical decision-making doctrine should also be consistent and linked throughout the U.S. Army publications.

The education system of the US Army should stress decision aids in the execution of the TDMP. Students at all levels of instruction need to think through mission planning to mission execution. The focus should not be aimed at the optimization of the plan, but rather the execution of a suboptimized plan.

The purpose of the TDMP has evolved over the years from solely selecting a course of action to synchronization of battlefield actions. The most critical outcome of the TDMP is the identification of the decisions that the commander must make during the battle. Ultimately, adoption of the recommended changes will improve the ability of military units to plan and execute missions using existing doctrine.

APPENDIX A

THE MANEUVER COMMANDER'S GUIDE TO THE DECISION SUPPORT TEMPLATE

The following excerpt from "The Emperor has no clothes" (or The Maneuver Commander's Guide to the Decision Support Template) provides a review of some of the past literature on the DST. The excerpt reveals the DST's evolving nature and relationship to the TDMP and commanders decision making during mission execution.

FM 71-3, Armored and Mechanized Infantry Brigade (May 1988), also mentions the DST in its selection on the Intelligence Preparation of the Battlefield (IPB). FM 71-3 clearly states that four types of templates are constructed in the IPB process, doctrinal, situational, event and decision support. The S3 briefs the commander on the DST. The DST does not dictate decisions to the commander, it outlines friendly courses of action, relative to time and location, that the commander may execute. (FM 71-3,p. 2-10) A DST sketch is given as an example in FM 71-3. FM 71-3 goes on to say that the "DST focuses on critical areas and times needed to plan for and execute friendly force employment...at brigade, the intelligence estimate is likely to be in DST format" (FM 73-1, p. 2-10 to 2-13). *This last statement hints that the DST is a tool of execution and orders production.* Unfortunately, FM 71-3 does not mention the DST again anywhere else in the manual. No explanation of how to create the DST or an example, other than the sole example given in FM 71-3, is provided.

In September 1988 the Army published FM 71-2, The Tank and Mechanized Infantry Battalion Task Force. In this manual the DST is defined and a defensive sketch is provided as the DST product (figure2). The DST is "the final template of IPB. It does not dictate decision to the commander, but rather identifies critical events and threat activities relative to time and location which may require tactical decisions. Critical events and threat activities are displayed on the decision support template using target areas of interest, decision points and time lines. (FM 71-2, p 2-7 to 2-26) FM 71-2 however, does nor explain the DST further. In appendix B, Combat Orders, the manual clearly leaves out the DST as an orders product. In addition, FM 71-2 emphasizes the TLP as primary "task force command and control process" (FM 71-2,p. 2-14). In the TLP the IPB process is mentioned in the "estimate of the Situation" and analyze Course of action-war game" steps. The DST then, according to FM 71-2, is a war gaming tool and not an orders product. No where in 71-2 does it state that a commander used his DST to fight the battle.

FM 34-130, Intelligence Preparation of the Battlefield (May 1989) is primary reference for the IPB process. This manual is the richest source for DST information. The DST is listed twenty-two times to include a definition, the development of the DST, and specific DSTs for all sorts of operations (air, enemy counterattack, enemy defense, enemy withdrawal, friendly, friendly attack, and rear operations). This manual establishes the DST as a staff product that is produced after the war gaming the most probable course of action based on all factors. "The staff then develops decision support templates for the most likely enemy course of action and probable branches and sequels. The staff then brief the commander on the DST." (FM 34-130, p. 2-14) The commander then war games the DST to make sure that it covers all potential COAs (course of action) and integrates his intent. Them commander then updates the PIRs (Priority Intelligence Requirements) based on the DST and issues a decision and concept of operation. (FM 34-130, p. 3-1, May 1989) FM 34-130 depicts these actions in a diagram that integrates the IPB process with the "Commander's decision making process." This manual clearly expresses the DST in decision making process and establishes the DST as a product that is to be issued to subordinate leaders as a part of the final order. It describes the threat integration process as having three steps: develop situation templates; develop event templates and matrix; and develop decision support template. FM 34-130 explains that the DST, in final form, is simply a "combined intelligence estimate and operations estimate in graphic form." (FM 34-130 May1989. p 4-66) The manual further states that several DSTs will be needed for each operation. Several DST sketches are provided in this manual. Examples include a DST keyed to an operational factors matrix and one for friendly attack.

In July of 1989, Fort Leavenworth produced ST 100-9, The Command Estimate. Although a Student text (ST) is not considered a doctrinal publication, this text did describe the DST in its section on IPB.

> The decision support template relates the details of event templates to decision points that are of significance to the commander...The decision support template provides a structured basis for using experience and judgment to reduce battlefield uncertainties...Decision support templating identifies those area where the enemy or terrain targets can be attacked to support the commanders concept for fighting close and deep operations. It also relates projected battlefield events and targets that will reduce the commander's decision. ST 100-9, Jul 89, p 7-34

ST 100-9 (1989) provides a diagram of an offensive DST in addition ST 100-9 states that DST:

> depicts the TAIs (target Area of Interest) and decision points. To save time, the decision support template can be combined with the situation template and event template....The decision support template will highlight the commander's opportunities and options and ensure timely and accurate

> decisions, thus providing the means to influence enemy actions rather than just reacting to them...The template is not the battle map. It does not represent locations of enemy units that are confirmed by intelligence, rather it is the best guess of a G2 officer.

A diagram of the IPB process and the command estimate (which includes the DST for the first time) is shown in ST 100-9 (1989). In Jul 91, FT Leavenworth printed a new version of ST 100-9 with a new title (techniques and procedures for Tactical decision making). The explanation of the DST in this new ST was a reprint from the 89 pamphlet.

In March 1990, FM 34-130 Intelligence Analysis was published. This manual explained that the IPB " supports the use of fire and maneuver to achieve a tactical advantage. Event templating facilitates following enemy force and determining their probable course of action. Decision support templates (DSTs) enable the commander to apply combat power in a timely manner." (FM 34-3, Mar 90, p 4-4) FM 34-3 proscribes that the DST is prepared during the Threat integration phase of the IPB process as a shared S2/S3 product. The purpose of the DST is stated as a guide "as to when tactical decisions are required relative to battlefield event." (ibid, p.4-6) According to FM 34-3 a properly prepared DST portrays the enemy's most likely course of action and possible target areas of interest (TAIs) along with time phase lines (TPLs) and decision points which relate to fire, maneuver and CSS. This manual also sites that a" decision support matrix supplements the DST." (ibid, p 4-32) A sketch of an offensive DST is given as an example.

In June 1990, FM 71-100, Division Operations, was published. This manual made only one reference to the DST. The DST is described as a "melding of the enemy situation and event template information with the friendly course of action sketch or operations overlay of final approved OPLAN or OPORD."...The DST is started during the war game phase of the planning process and are expanded once a specific course of action is selected by the commander.

> The DST is, essentially a master execution matrix. It correlates the enemy operational template and the friendly operational timetable operational template while identifying decisions points for commitment of friendly combat power, target areas of interest where the combat power must be applied, time phased lines to assist the decision maker in synchronizing the combat power which is available and the NAI.

FM 34-2-1 Reconnaissance and surveillance (Final Draft November 1990) established the DST the final IPB product of the combined staff effort. Although a "final draft" does not represent doctrine, it does show the direction that the DST concept is heading from the intelligence School's perspective. FM 34-2-1 states that the DST is a product of war gaming. The purpose is to "synchronize all battlefield operating systems (BOS) to your commander's best advantage. The DST consist of TAI, decision points or lines, TLPs and

a synchronization matrix" (FM 34-2-1, 1990, 2-32). This manual depicts a diagram of a DST with decision lines that relate directly to the matrix below the sketch. This manual also depicts a sketch of a slightly different commander's decision-making process (supported by IPB) than FM 34-130.

It appears from the source listed above that the DST concept is being stretched between the practical and the esoteric. To be useful, the DST must provide the commander with a tool that assists to execute combat decisions during the battle. Fm 100-5 stresses agility and operational flexibility. Tactical commanders are expected to be able to produce plans that "enable the commander to shift his main effort quickly without losing synchronization" (FM 100-5, 1988, 133). "To achieve this requires anticipation, mastery of time-space relations, and complete understanding of the ways in which friendly and enemy capabilities interact" (FM 100-5, 1988, 18). Many of the manuals sited above, in spite of their differing definitions and explanations of what a DST is, appear have that intent in mind. The challenge is to produce a useful DST product during time-pressured planning situations at the battalion/Task Force level.

So what do we know about the DST? The DST is tied to the IPB process and is the IPB's last step. It is a combined staff product and is in the final result, a tool used by the commander. The DST identifies friendly decisions in relation to the enemy, friendly forces, the terrain and time. And, finally, the DST is produced in one of several forms: (1) an overlay, (2) a sketch, (3) an execution matrix, (4) an overlay tied to an execution matrix, (5) a sketch, tied to an Execution Matrix.

At the battalion/task force level the most useful form appears to be an "overlay" DST or an "Overlay tied to an Execution Matrix" DST. An exact format is not required, as long as the commander and his key leaders understand the "combat shorthand" markings that make up their DST. The DST should include all critical decisions, targets and timely battlefield decisions. This product is produced as a combined staff effort under the direction of the operations officer. The DST is created during the war gaming phase as a means of recording the war gaming results. The DST is refined after the commander makes his decision on a COA, during the rehearsal and issued (with matrix) NLT the pre-battle intelligence update.

Another useful format for a DST is a sketch with matrix. This DST product is useful for echelons above battalion/task Force or when operations are conducted over areas so large that overlays become impractical. In this case the sketch reduces the complex operation to a simple concept.

A useful definition can now be synthesized from the sources listed above. This definition defines the DST as.

> A master intelligence and operations execution product (overlay, sketch, matrix, or combination sketch with matrix, or overlay with matrix) used by

the commander and his staff to assist them in the execution of the battle. The DST is a product of 1) the initial war game of the commander's chosen COA and 2) is refined continuously until execution. The DST lists all critical decisions, targets, and time-distance factors that will assist the commander in accurate and timely battlefield decisions. In its final product it is the commander's battle map.

The DST, in essence is a commander's tool to execute fire, maneuver and combat support options to achieve his intent. Decision points or decision lines are used to help him fire targets based upon enemy actions. Decision points or lines also assist him to move along a new direction of attack based upon enemy weakness, or exploit an enemy mistake. The commander will be able to do this more effectively if the, decision points, targets and time-space factors are calculated directly on his battle map or depicted on a sketch. After all, isn't a company fire plan merely a DST at the company level? A DST at battalion/Task Force level follows the same theme, but involves many more pieces.

Most importantly, DST can help the commander execute branch plans. The DST is tied to a selected COA. It addresses how to make the plan work (decisions required), and significant contingencies to the selected plan (branches) determined by the METT-T analysis discovered during the planning process.

Branch plans are a critical part of this concept and should be an integral part of the completed order. "Actions are taken to compensate for any disadvantage associated with the chosen course of action and contingency plans are fully developed." (FM 71-2, p 2-20) These branch plans build flexibility into the selected course of action and allow the commander to act decisively to enemy weaknesses as those weaknesses are discovered on the battlefield. Branch plans are also central to effective deception planning. Deception operations exploit enemy actions by manipulating multiple friendly courses of action. Deception operations exploit enemy actions by manipulating multiple courses of action. Deception does not always require a separate feint or ruse to deceive. Multiple friendly courses of action become deceptions in themselves. By presenting the enemy with a pattern that depicts a strong attack in one direction the enemy may respond by moving forces to protect against your attack. Once the enemy moves a quickly executed branch plan that attacks the enemy's newly created weakness may smash through him before he can issue further orders.

The staff supports this process by developing the DST. The DST helps focus the commander's decision to execute one or other branch plan. **It orients on the enemy, and provides the commander with detailed time distance calculations to make his moves based upon what happens during the execution of the battle. The branch plans are driven by reconnaissance and appear on the Decision Support Template as on-order plans**. The commander's PIR are focused on the critical information needed to make decisions about which branch plan to execute.

APPENDIX B

APPLYING DECISION-POINT TACTICS TO THE OFFENSE

This example of applying DPT to the offense is from Chapter Two of the CTC Quarterly Bulletin No. 97-4. The example focuses on the use of DPT in an offensive at the National Training Center (NTC). The example begins after the commander has conducted the TDMP using the DPT procedure. The example focuses on mission execution of DPT.

MISSION: 32d Guards Motorized Rifle Regiment attacks from the march 090700XXX96 to penetrate defending enemy forces and secure MRR objective vic NK6011 to facilitate the passage of follow-on divisional forces. (The OPFOR will attack at a 1.1: 1 ratio (OPFOR:BLUFOR).)

TERRAIN ORIENTATION: Shown below are the names of common NTC terrain features.

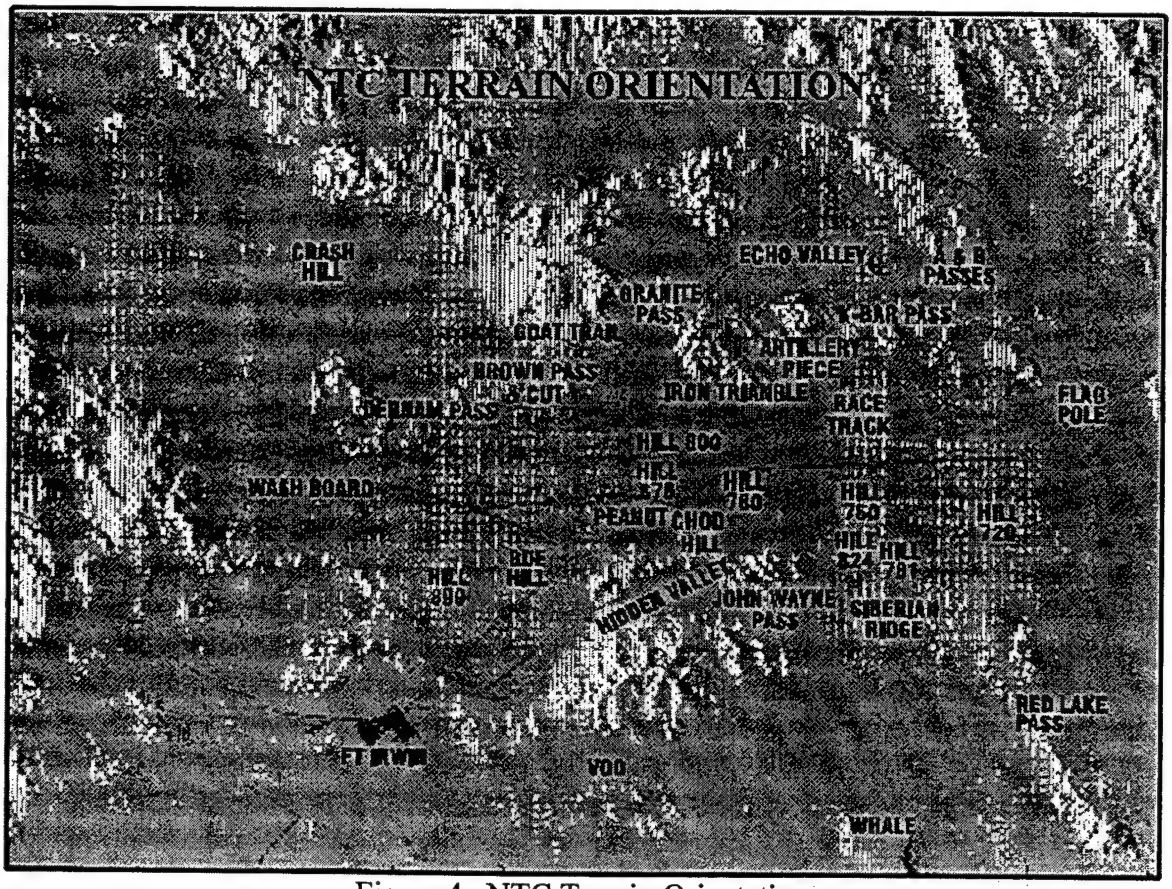

Figure 4. NTC Terrain Orientation

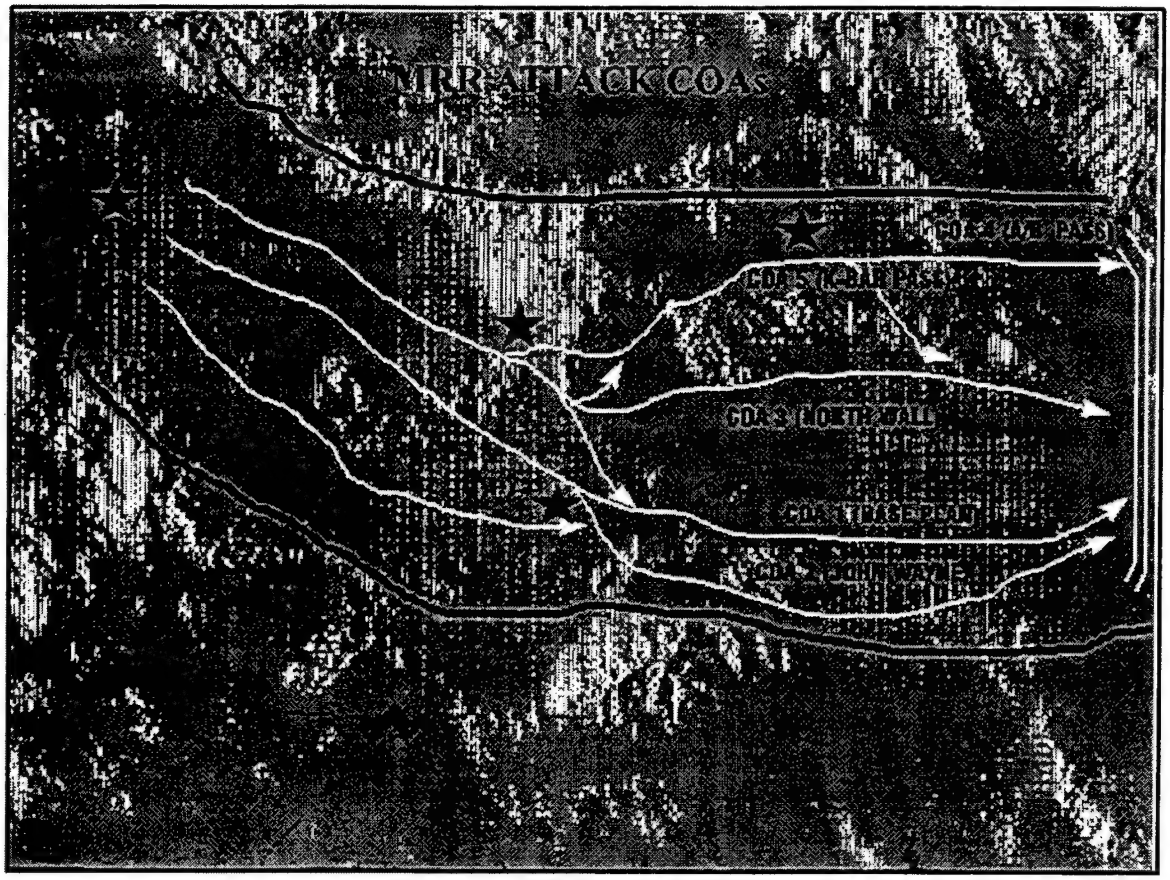

Figure 5. MRR Attack COAs

COURSES OF ACTION (COAs)

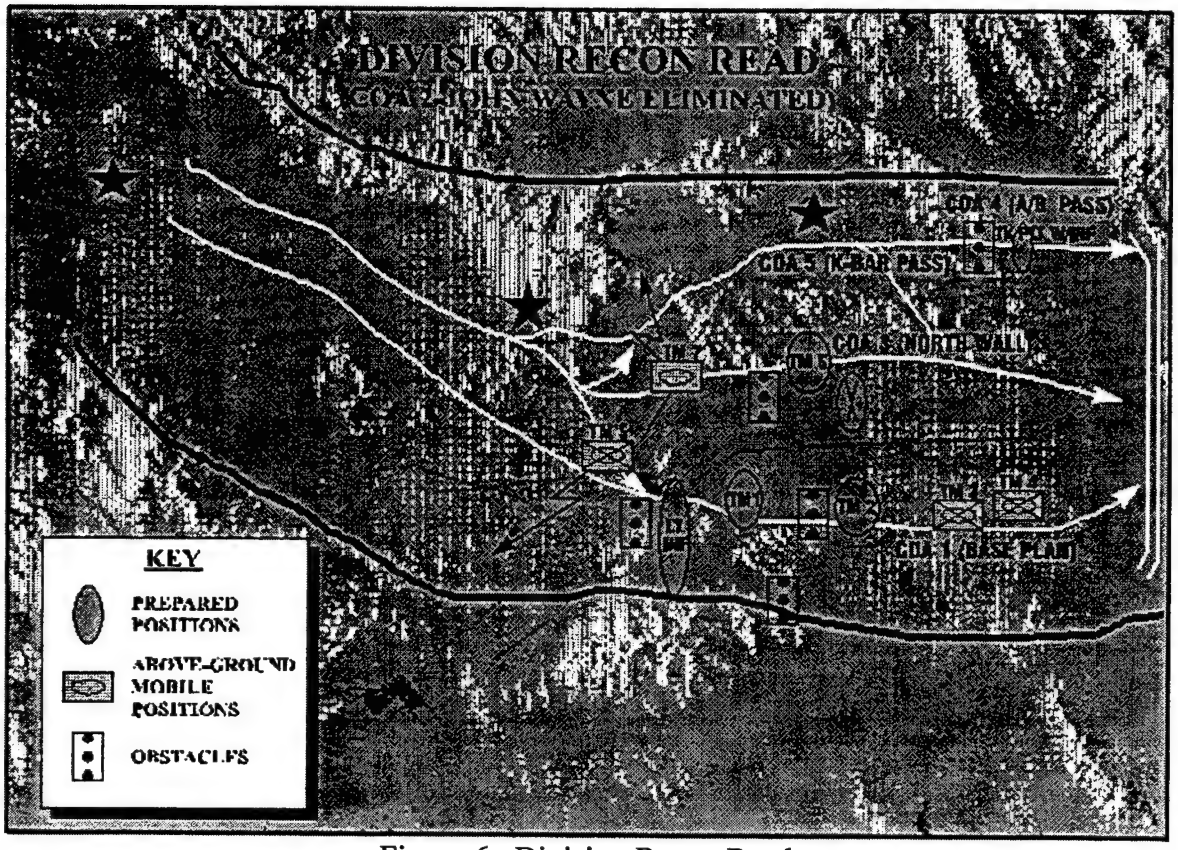

Figure 6. Division Recon Read

COA No. 1 (Base):

Task Force Destroyer LD's 081900XXX96 to seize Hill 899 (NK318088), Brigade Hill (NK353086) and Chod Hill (NK411104) to establish support by fire positions and facilitate passage of Advance Guard and Main Body forces.

Task Force Angel LZ vicinity John Wayne Foothills (NK481055), seizes Hill 824 (NK491093) and establishes support by fire positions oriented on Hill 760.

Advance Guard MRB attacks through Debnam Pass (NK302151) to the Peanut/Chod gap to destroy enemy forces, clear enemy obstacles, and seize Hill 780 (NK442118). Advance Guard MRB continues attacking east until combat ineffective.

Main Body MRB's attack abreast through Peanut/Chod gap and Peanut/Hill 876 gap, echelon right. Left side MRB (Supporting Effort) screens right side MRB (Main Effort)

northern flank by seizing Hill 780 and Hill 760. Main effort MRB penetrates enemy forces along southern wall of central corridor and seizes MRR objective.

Anti-Tank Battalion (ATB) screens MRR northern flank.

2d Echelon MRB follows and assumes main effort or exploits main effort success.

Decision-Point Conditions to Execute COA No. 1:

•No more than three company teams arrayed on the south wall of the central corridor.
•John Wayne Pass held or blocked by enemy forces.
•More than one company team that can influence Alpha and Bravo Passes in the northern corridor.

COA No. 2 (John Wayne Pass Option):

Task Force Destroyer same as COA No. 1

Task Force Angel same as COA No. 1

Advance Guard same as COA No. 1

Main Body, Left side/northern MRB (Secondary Effort) attacks to reinforce Advance Guard at Peanut/Chod gap and enhances deception operations indicating a main attack along the south wall. On order disengages and follows main effort MRB through Hidden Valley, John Wayne Pass and over Siberian Ridge. Main Body, right side/southern MRB (Main Effort) attacks through Hidden Valley, John Wayne Pass, and over Siberian Ridge to seize MRR objective.

ATB screens MRR northern flank.

2d Echelon follows and assumes main effort.

Decision-Point Conditions to Execute COA No. 2:

•John Wayne Pass clear of enemy forces and obstacles.
•Hidden Valley defended by less than one mechanized platoon.
•Strong enemy forces around Hill 876, Peanut/Chod and Hill 780.

COA No. 3 (North Wall Option):

Task Force Destroyer attacks through the Goat Trail (NK363176) to secure Granite Pass and then continues the attack to destroy/fix enemy forces at the Iron Triangle (NK423162) and achieves the first point of penetration for the regiment.

Task Force Angel LZs vicinity the Worm Hole Pass at 081730XXX96 and establishes support by fire positions to fix/destroy enemy forces vicinity of the Artillery Piece and/or the Iron Triangle.

Advance Guard MRB attacks through Brown Pass (NK337162) to the Iron Triangle to destroy or fix enemy forces. Continues attack through the Artillery Piece (NK443173) and Racetrack (NK463141) and continues east until combat ineffective.

Main Body MRB's attack abreast through Brown Cut and Brown Pass, echelon left. Right side/south side MRB (Supporting Effort) screens left side/north side MRB (Main Effort) southern flank by seizing the Iron Triangle, Racetrack, and continues setting rolling firing lines to the east. Left side MRB (ME) penetrates high along the north wall of the central corridor and seizes the MRR objective.

ATB screens MRR southern flank.

2d Echelon follows and assumes main effort or exploits main effort success.

Decision-Point Conditions to Execute COA 3:

•No more than one company team at Iron Triangle/Artillery Piece.
•Brigade reserve south of Hill 720 or North of Range 23/Flagpole (NK598157).
•Two or more company teams defending in Echo Valley.
•Enemy forces strong (2-3 CO/TMs w/obstacles and prepared positions) around Hill 876, Peanut/Chod and Hill 780.

COA No. 4 (Echo Valley/Alpha and Bravo Passes Option):

Task Force Destroyer same as COA No. 3 except it also assists in deception operations portraying a North Wall attack option.

Task Force Angel LZs same as COA No. 3 except it also assists in deception operations portraying a North Wall attack option.

Advanced Guard MRB attacks through Brown Pass to the Iron Triangle to destroy or fix enemy forces. Establishes firing lines and secures Main Body's southern flank as it attacks through Granite Pass (NK407197) and penetrates through Alpha Pass. Reinforces deception effort to show a North Wall option.

Main Body MRB's attack abreast through the Brown Cut and Goat trail, echelon right. Right side/ Northern MRB (SE) leads through Granite Pass, attacks down Echo Valley, seizes firing lines to support by fire the assault through Alpha Pass by the ME MRB. If the pass is lightly or undefended, the lead MRB will penetrate and secure the eastern side to
pass the ME MRB through to the MRR objective.

ATB initially screens MRR southern Flank. One ATC remains with Advance Guard, ATB (-) moves with Main Body and continues to screen its southern flank.

2d Echelon follows and assumes main effort or exploits main effort success.

Decision-Point Conditions for Executing COA No. 4.

•No more than two company teams in northern corridor, including the Granite Pass area.
•No more than one company team that can influence Alpha Pass.
•Will accept light infantry battalion supported by no more than one tank platoon.

COA No. 5 (Echo Valley and K-Bar Pass (NK515196)):

Task Force Destroyer same as COA No. 3 except it also assists in deception operations portraying a North Wall attack option.

Task Force Angel LZs same as COA No. 3 except it also assists in deception operations portraying a North Wall attack option.

Advanced Guard MRB attacks through Brown Pass to the Iron Triangle to destroy or fix enemy forces. Establishes firing lines and secures Main Body's southern flank as it attacks through Granite Pass (NK407197) and continues to fix forces until MRR breaks out from K-Bar Pass. Reinforces deception effort to portray a North Wall option.

Main Body MRB's Attack abreast through the Brown Cut and Goat trail, echelon right. Right side/Northern MRB (SE) leads through Granite Pass, attacks down Echo Valley, detaches one MRC to fix forces in Alpha Pass and deceives enemy forces as to focus of attack. Lead MRB(-) continues over K-Bar pass and secures exit of K-Bar Pass. ME MRB follows and continues attack to MRR object down central corridor.

ATB initially screens MRR southern Flank. One ATC remains with Advance Guard, ATB (-) moves with Main Body and continues to screen its southern flank.

2d Echelon follows and assumes main effort or exploits main effort success.

Decision-Point Conditions for Executing COA No. 5.

•K-Bar Pass (a single vehicle road) is not blocked nor its exit guarded.
•No more than two company teams in northern corridor, including the Granite Pass area.
•More than one company team repositions to block Alpha and Bravo Pass.

How Decision-Point Tactics Were Executed.

FIRST Decision Point: Division Reconnaissance reports during the defensive preparation indicated heavy defensive preparation along the southern wall vicinity of Hills 876, 780, 760. Reconnaissance identified seven of the eight company teams. Two teams in counter-reconnaissance positions east of Barstow road, four company teams working along the south wall and one company team working vicinity of the Iron Triangle. Hidden Valley and John Wayne Pass had a light infantry battalion preparing defenses in the area. obstacles also blocked John Wayne Pass. There were no indications of work in the Echo Valley and only a tank platoon was identified behind Alpha and Bravo Passes. Based on this read, the commander eliminated COA No. 2 as a viable option. COA No. 1 was now an unlikely option; however, the final decision would rest on further enemy preparations and dispositions. The commander's first major decision point was now made to divert TF Angel to its northern LZ near the Worm Hole Pass and TF Destroyer was sent to secure Granite Pass and assist the Advance Guard at the Iron Triangle. Regimental reconnaissance was then focused to confirm or deny northern option criteria.

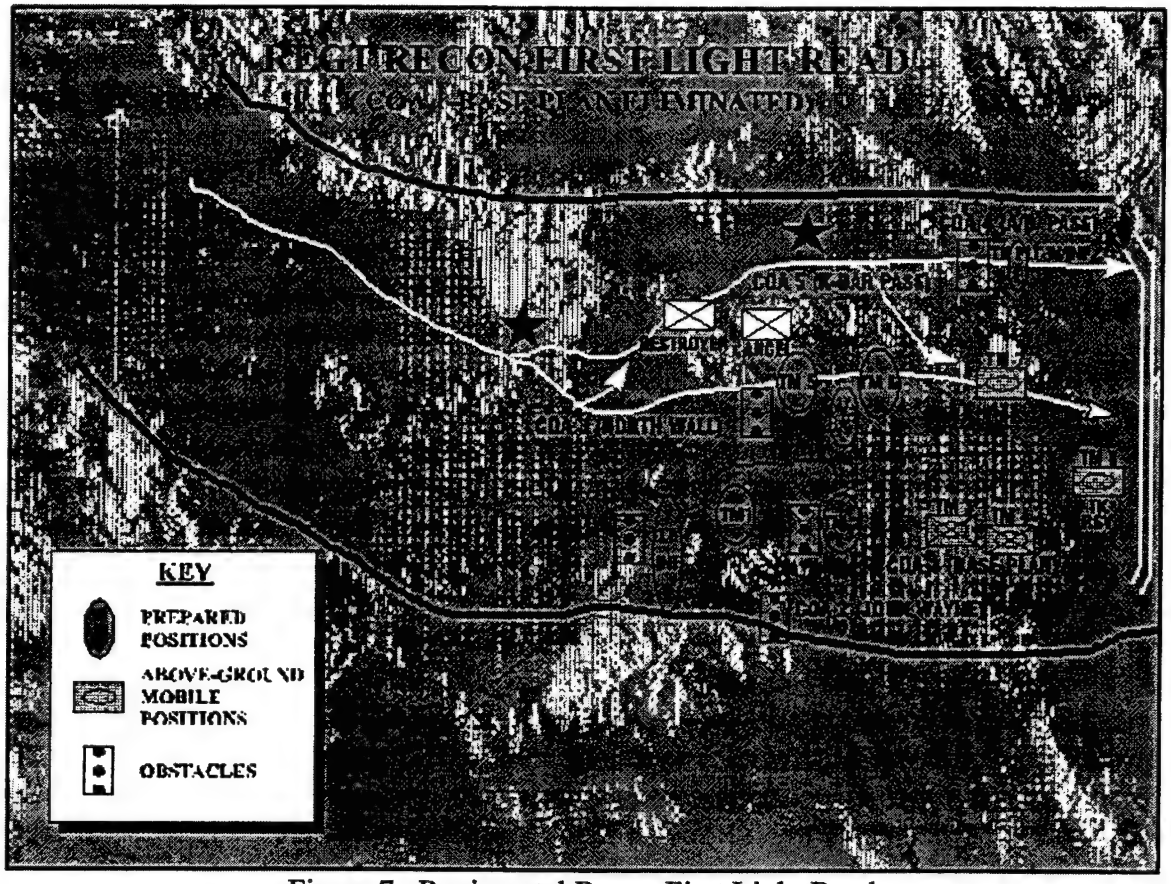

Figure 7. Regimental Recon First Light Read

SECOND Decision Point (MRB Level): The first light read identified the light infantry battalion in a prepared defense in Hidden Valley and the Peanut/Chod gap. The infantry was backed up by a dug-in company team (TM 1) vicinity hill 780. Another company team (TM 2) was identified in defensive positions vicinity forward slope of hill 760. Two more company teams (TMs 3 and 4) were located behind hill 760. One company team was

located at the Artillery Piece (TM 5) but TF Angel had been successful in inflicting about 50-percent losses to this unit. Another company team (TM 6) was positioned behind the Race Track. A tank team (TM 7) was located at the exit of the Passage to India NK547165) on the north wall, but this was east of K-Bar pass. The brigade tank reserve (TM 8) was positioned center of sector behind hill 720. One tank platoon was still located behind Alpha and Bravo Passes. TF Destroy had also been successful in securing Granite Pass and was currently working its way around the Iron Triangle. At this point, the second commander's decision point was met. COA No. 1 was no longer an option. COA No. 3 was less likely given the three company teams along the north wall. However, the final decision on COA No. 3 would be made based on the enemy's reaction to the MRR's Advance Guard force.

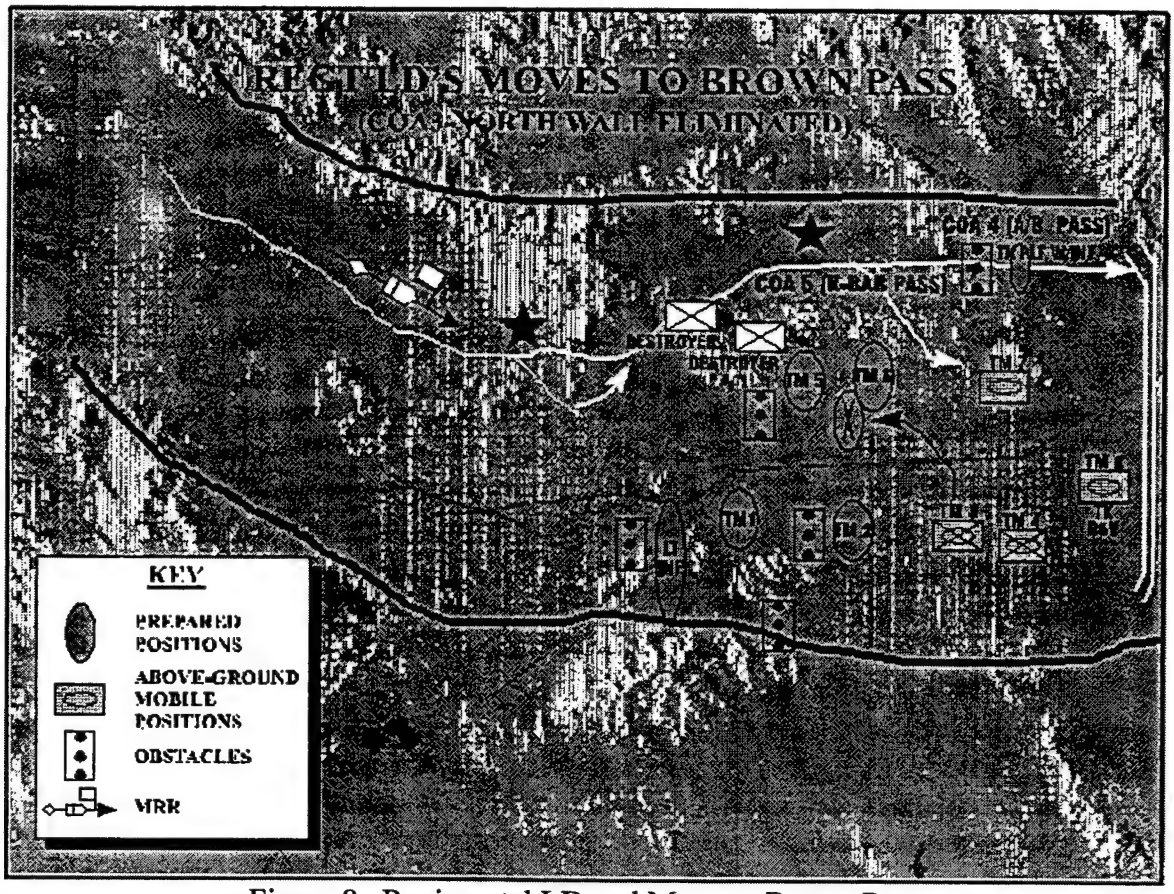

Figure 8. Regimental LD and Move to Brown Pass

THIRD Decision Point: As the regiment was moving toward Brown Pass, TM 3 repositioned and eventually assumed defensive positions vicinity of the Race Track. Based on this move, the third commander's decision point was met, eliminating COA No. 3. The OPFOR executed COA No. 4, with the final decision being based on repositioning of enemy forces vicinity Alpha Pass.

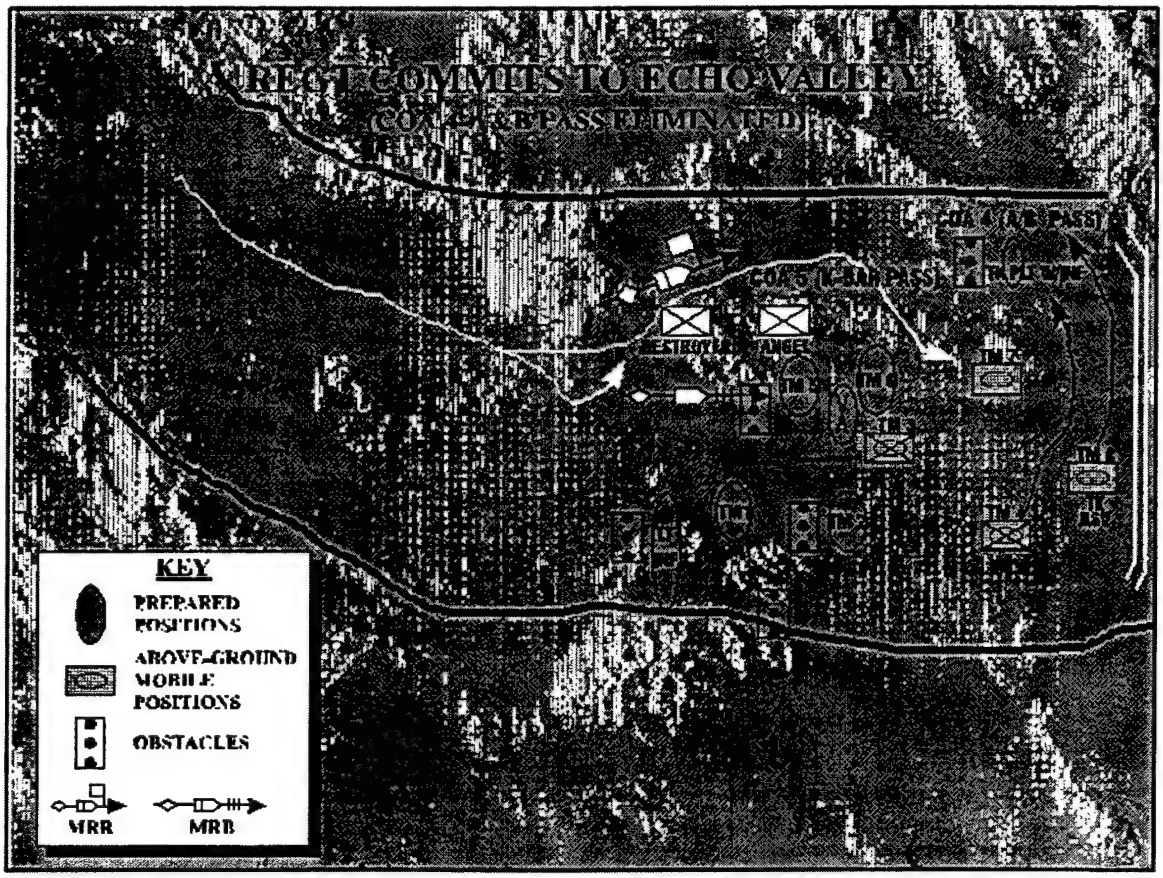

Figure 9. Regiment Commits to Echo Valley

FOURTH AND FINAL Decision Point: As the Advance Guard began to destroy TM 5 and fix TMs 3 and 6, the main body committed through Granite Pass. In apparent reaction to this maneuver, TMs 4 and 8 were seen repositioning toward Alpha Pass. Their repositioning was being slowed by the persistent chemical dropped at the Flag Pole with the intent of separating the two corridors. At this point, the commander made the final decision to execute COA No. 5 and attack back over the Granite Mountains into the central corridor.

MRB EXECUTION: At this point, the execution of the operation was turned over to the MRB commanders with the regimental CP supporting the operations with fires and other BOS systems. Endstate, the regiment successfully attacked over K-Bar pass, destroying TM 7 at the Passage to India, secured the objective, and destroyed repositioning units from behind Alpha Pass.

SUMMARY: Decision-point tactics is neither unique nor new. From the OPFOR perspective, it is the primary means to achieve success on a rapidly changing battlefield. The essence of decision-point tactics is a flexible plan that focuses on enemy actions and reactions. There are four imperatives to the successful execute of decision-point tactics.

Imperative 1: A unit most have good battlefield vision to clearly identify the conditions necessary to execute a specific decision.

Imperative 2: A unit must have a successful reconnaissance and counter-reconnaissance operation to determine if the conditions have been met and to deny its intentions to the enemy.

Imperative 3: A unit must have well-trained crews and platoons to conduct decentralized execution.

Imperative 4: A unit must execute effective deception operations to cause the enemy to waste time and resources. There are also inherent risks involved with executing decision-point tactics. The most critical factor is the enemy. Accomplishing these imperatives while minimizing the risks is essential to executing decision-point tactics.

GLOSSARY

Branch. A contingency plan or course of action built into the base plan or course of action for changing the mission, disposition, orientation, or direction of movement of force to aid success of the operation based on anticipated events, opportunities or disruptions caused by enemy actions and reactions as determined during the war gaming process (FM 101-5-1 1997, 1-21).

Course of action (COA). Any sequence or acts that an individual or a unit may follow (FM 101-5-1 1997, 1-41).

Commander Critical Information Requirements (CCIR). Information required by the commander that directly affects his decisions and dictates the successful execution of operational or tactical operations. CCIR normally results in the generation of three types of information requirements: priority intelligence requirements (PIR), essential elements of friendly information (EEFI), and friendly force information requirements (FFIR) (FM 101-5-1 1997, 1-34).

Decision Point (DP). Decision Points are events or locations on the battle field where tactical decisions are required during mission execution (FM 101-5 1997, 5-18). Decision points integrate named area of interest (NAI) and commanders critical information requirements (CCIR). TAIs are derived from DPs.

Decision Point Tactics (DPT). DPT is not a new concept, but a function of tactical decision making. The term is used to capture the collective interactions, integration and end products of DPs, the decision support template, the decision support matrix and the Tactical Decision Making Process to employ "available means at a specific point in space and/or time where the commander anticipates making a decision concerning a specific friendly course of action. This decision is directly associated with friendly activity, threat force activity (action/reaction), and/or the battlefield environment" (CTC Quarterly Bulletin No. 97-4, 1997, 1).

Decision Support Matrix (DSM). Aid used by the commander and staff to make battlefield decisions. It is a staff product of the war gaming process which list the DPs, location of the DP, the criteria to be evaluated at the point of the decision, the action or options to occur at the DP, and the unit or element that is to act and has responsibility to observe and report the information affecting the criteria for decision (FM 101-5-1 1997, 1-45).

Decision Support Template (DST). DST is created by the CDR and Staff during the decision making process to represent graphically the projected situation, identifying where, when, and under what conditions a decision must be made to initiate a specific activity or event (FM 101-5 1997, H-8).

Enemy Course of Action (ECOA). Any sequence or acts that an enemy (individual or a unit) may follow.

Essential Elements of Friendly Information (EEFI). The critical aspects of a friendly operation that if known by the enemy, would subsequently compromise, lead to failure, or limit success of the operation, and therefore must be protected from enemy detection (FM101-5-1 1995, 1-62).

Friendly Force Information Requirements (FFIR). Information the commander and staff need about the forces available for the operation. This personnel, maintenance, supply, ammunition, and petroleum, oils, and lubricants (POL) status, and experience and leadership capabilities (FM 101-5-1 1997, 1-72).

Information Requirements (IR). Those items of information regarding the enemy and his environment which need to be collected and processed in order to meet the intelligence requirements of a commander (FM 101-5-1 1997, 1-82.).

Military Decision Making Process (MDMP). The MDMP is the army's analytical approach to problem solving. The process has seven steps which build upon the previous step. Each step has its own output. Errors committed early in the process impact on later steps and the final product (FM 101-5 1997, 5-1). The seven steps are (1) receipt of mission, (2) mission analysis, (3) course of action development, (4) course of action analysis, (5) course of action comparison, (6) course of action approval, and (7) orders production.

Named Area of Interest (NAI). A point or area along a particular avenue of approach through which enemy activity is expected to occur. Activity or lack of activity within an NAI will help to confirm or deny a particular enemy course of action (FM 101-1-5 1997, 1-107).

Optimization. To make the best or most favorable.

Satisfy. Meeting internal conditions or requirements necessary to the fulfillment of the purpose.

Priority intelligence requirements (PIR). Those intelligence requirements for which a commander has an anticipated and stated priority in his task of planning and decisionmaking (FM 101-5-1 1997, 1-124).

Synchronization. The arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time (FM 101-5 1997, 1-149).

Sequel. Major operations that follow the current major operation. Plans for these are based on the possible outcomes associated with current operations (FM 101-5 1997, 1-139).

Suboptimize. A suboptimized plan consist of subordinate plans characteristic of constituents of a base plan which satisfy other possible and viable courses of action to achieve the original purpose.

Tactics. Tactics is the art and science of employing available means to win battles and engagements. Tactics is battlefield problem-solving (FM 100-5 1993, 6-3).

Targeted Area of Interest (TAI). The geographical area or point along a mobility corridor where successful interdiction will cause the enemy to either abandon a particular course of action or require him to use specialized engineer support to continue, where he can be acquired and engaged by friendly forces. Not all TAIs will form part of the friendly course of action; only TAIs associated with high-payoff targets are of interest to the staff. These are identified during staff planning and wargaming. TAIs differ from engagement areas in degree. Engagement areas plan for the use of all available weapons; TAIs might be engaged by a single weapon (FM 101-5-1 1997, 1-152).

Tactical Decision Making Process (TDMP). The MDMP in a tactical environment which parallels the seven step MDMP in four steps: (1) mission analysis, (2) course of action development, (3) course of action analysis and comparison, and (4) decision.

War game. A step -by-step process of action, reaction, and counteraction for visualizing the execution of each friendly course of action (COA) in relation to enemy COAs and reactions. It explores the possible branches and sequels to the primary plan resulting in a final plan and decision points for critical actions (FM 101-5-1 1997, 1-161).

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